PLANNING FOR HOLISTIC SUSTAINABILITY:

A Study of the 'Process' in Kerala (India) and Sweden

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ABSTRACT

Numerous attempts have been undertaken to deliver a common understanding of the concept of sustainability. Most of these attempts however, have remained contested and ineffective. Weak conceptualisation has also affected the process of operationalisation of sustainability. This thesis addresses the above issues by firstly, interpreting sustainability and its underlying principles from a perspective that draws together social, economic, environmental, cultural, and institutional conditions and cross-linkages. Secondly, and more importantly, the research focuses on 'how' to operationalise sustainability across different regions. In doing so, the research acknowledges the significance of planning pathways in the process of achieving sustainability.

The research has been conducted using two case studies that critically examine the effectiveness of contemporary sustainability planning processes in Kerala (India) and Sweden. A total of 42 in-depth interviews, three focus group discussions and several participant observations have contributed to primary data collection for the two case studies. The research has developed a set of 'substantive' and 'process' criteria based on which planning efficacy in Kerala and Sweden has been evaluated.

By focusing on the 'how' and 'why' rather than the 'what' aspects of the sustainability problematique, the research findings contribute new knowledge that reduces the chasm between theory and practice with regard to operationalising holistic sustainability. The research also demonstrates that despite significant differences between social, economic and environmental settings, planning for sustainability in both Kerala and Sweden largely exhibits similar behavioural patterns. For instance, both regions suggest the importance of public participation and community engagement in achieving sustainability while planning process in both cases suffer from lack of integration between different components, issues and discourses and weak mechanisms of plan evaluation and feedback generation. The research thus argues that the division of the world into the developing South and the developed North does not affect the process of operationalising sustainability in any significant way. Finally, the thesis highlights implications of sustainability planning on policymaking and identifies priorities for governance that better reflect the complexity underlying sustainability operationalisation.

DECLARATION

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying.

Vigya Sharma
September 2008

To *Mummy* and *Papa* for their unconditional love and support

ACKNOWLEDGEMENTS

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ACRONYMS

ADS	Area Development Society
AUD	Australian Dollar
BEST	BioEthanol for Sustainable Transport
CBSS	Council of the Baltic Sea States
CDS	Centre for Development Studies
CDS	Community Development Society
CIC	Curitiba Industrial City
CO_2	Carbon dioxide
CPI(M)	The Communist Party of India (Marxist)
CSD	Commission on Sustainable Development
ENAR	European Network Against Racism
EU	European Union
FG	Focus Group
GASB – SEA	Governmental Accounting Standards Board – Service Efforts and Accomplishments
GDP	Gross Domestic Product
GEM	Gender Empowerment Measure
IBGE	The Brazilian Institute of Geography and Statistics
ICIDI	Independent Commission on International Development Issues
ICLEI	International Council for Local Environmental Initiatives
IPPUC	Institute for Research and Urban Planning
ISOE	Institute for Social-Ecological Research
IT	Information Technology
IUCN	International Union for Conservation of Nature and Natural Resources
KCSS	Kerala Civil Society Stakeholder
KGR	Kerala Government Representative
KSCTE	Kerala State Council for Science, Technology and Environment
KSPB	Kerala State Planning Board
KSRTC	Kerala State Road Transport Corporation
KSSP	Kerala Sastra Sahitya Parishad
KTH	Kungl Tekniska Hogskolan

KWh/m^2	Kilo Watt Hour/ metre square
LIP	Local Investment Programme
LSGI	Local Self Government Institution
LUZ	Larger Urban Zone
Mk EL	Environmental Class – Electric
MTV	Music Television
NG	Neighbourhood Group
NIER	National Institute of Economic Research
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PIA	The Infant and Adolescent Environmental Education Programme
PPC	People's Plan Campaign
RMC	Metropolitan Region of Curitiba
SCSS	Sweden Civil Society Stakeholder
SDP	Social Democratic Party
SGR	Sweden Government Representative
Sida	Swedish International Development Agency
SUV	Sports Utility Vehicle
TLC	Total Literacy Campaign
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNCHE	United Nations Conference on the Human Environment
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USA	United States of America
USP	Unique Selling Point
WCED	World Commission on Environment and Development
WCS	World Conservation Strategy
WSSD	World Summit on Sustainable Development
WWF	World Wildlife Fund/ World Wide Fund For Nature

GLOSSARY

Gram Sabha – Literally, Gram means a village and Sabha, a meeting. Gram Sabha is therefore, a meeting of the village members to collectively plan for the development of the village at a local level. The Indian Constitution defines a *Gram Sabha* as a body consisting of persons registered in the electoral rolls of a village to elect a local government council called the *Panchayat*.

Favelas – Squatter settlements or slums in Brazil

Regeringskansliet – Sweden's government offices

Riksdag – The Swedish Parliament

Rs. – Indian Rupee

Sek – Swedish Kronor

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CHAPTER ONE

INTRODUCTION

INTRODUCTION

The last few years have witnessed a range of debates on sustainability and its operationalisation (Pirages 1994; Reid 1995; Moffatt 1996; Bebbington and Gray 2001; Sneddon, Howarth and Norgaard 2006). The confusion underlying the development of a holistic understanding of sustainability has increased manifold due to conflicting interests and backgrounds. The latter has directly resulted in doubts pertaining to practical implementation of sustainability and its ideals across rural-urban and developed-developing divides in several parts of the world. In other words, not only has the conceptualisation of sustainability remained an arduous task over the years, existing mechanisms and frameworks have also struggled to facilitate its operationalisation from a holistic, all-inclusive, multidisciplinary standpoint (Reid 1995; Becker and Jahn 1999). This thesis seeks to address the above dilemma by understanding the underlying process that guides sustainability planning and operationalisation in different regions. The research primarily focuses on sustainability from a holistic perspective, one that is able to strike a balance between several important – but often, contradictory – themes and arguments.

This chapter introduces the main theoretical ideas that have shaped the present research. The following section briefly discusses the concept of sustainability and its primary characteristics. Section 1.2 describes the forces essential for sustainability operationalisation. With this background knowledge, the next section presents the research problem and the main questions that this research aims to answer. Section 1.4 justifies the need for this study by suggesting its theoretical and practical significance. Section 1.5 briefly explains the research design and the primary methods used to conduct the research. The limitations and constraints faced in the course of this study are outlined in section 1.6. Finally, the chapter ends with an overview of the thesis structure.

1.1   *THE CONCEPT AND UNDERSTANDING OF SUSTAINABILITY*

> Sustainability is like democracy and justice. It is a moral ideal, a universally acknowledged goal to strive for, a shared basis for directing the creative and restorative energies that constitute life on Earth, and is notably resplendent in the human condition. Sustainability has that ring of universal desirability about it: no one is prepared to fundamentally challenge its precepts, no matter how vague these are, simply because there is an almost holistic human wish for a viable future for this unique planet and its inhabitants … We may learn to love [the transition to sustainability] or to hate it, to fear it or to be energised by it, but no one will be able to ignore it … it is as much a personal exploration as it is a societal quest (O'Riordan and Voisey 1998a, pp.3-4).

The above argument suggests the criticality of the issue of sustainability, its inevitability despite high levels of underlying complexity. Numerous scholars have suggested that sustainability was indeed one of the most challenging ideas developed in the 20th century and that the situation has apparently not changed much with the turn of a new era (O'Riordan and Voisey 1998a; Caswell 2001; Owens and Cowell 2001; Brown 2004; Gillen and Scanlan 2004). To this extent, it is appropriate to call sustainability challenging for two primary reasons. One, despite having been the centre of various debates and discussions in the contemporary world, very little has actually been agreed upon to conceptualise a pragmatic understanding of sustainability. Two, sustainability as a concept, 'embraces multiple objectives' thereby contributing to tension and ambiguity across different disciplines and knowledges. While some scholars consider sustainability as a primarily environmental phenomenon (Mercer 1991; Bebbington and Gray 2001), others argue that it has strong socio-economic dimensions (Henderson 1994; Becker and Jahn 1999; Sachs 1999).

The concept *per se* can be traced back more than five decades but it gained momentum after the famous Brundtland Report officially coined the term 'sustainable development' (Reid 1995; Moffatt 1996; Bebbington and Gray 2001). Sustainability was a leap forward from sustainable development that fostered a deeper interface between social, economic, ecological, political and cultural dimensions of development (Brown 2004). Despite an unprecedented increase in the interest around the theme of sustainability, the fundamental conceptualisation of the idea has remained a dilemma. The prolonged inefficacy in achieving a consensus on sustainability understanding has

therefore, resulted in the issue of weak transformation of public and political concern into effective policies and action (Mercer 1991).

Although there has been widespread displeasure due to a lack of practical understanding on sustainability, the concept has nevertheless succeeded in establishing itself as central to the theme of global development and human and environmental wellbeing (O'Riordan and Voisey 1998a). There is evidence that sustainability has been accepted as a guiding ideology that 'remains salient in confronting the multiple challenges of our new global context' (Sneddon, Howarth and Norgaard 2006, p.254). Besides accepting the very concept of sustainability, the literature is also replete with pleas for a 'holistic' approach in its development and understanding in order to ensure its operationalisation in contexts with different institutional, socio-economic and environmental arrangements (Brown 2001; Scanlan and Gillen 2004).

As a consequence of the fundamental need for approaching sustainability from a holistic perspective, another characteristic of sustainability is revealed. The infinite entwined dimensions within the concept of holistic sustainability necessitate the recognition of sustainability as a process that is constantly evolving. Pirages (1994, p.200) further explains the absolute nature of sustainability as a process rather than an end in itself:

> Ensuring sustainability over time means maintaining a dynamic balance among a growing human population and its demands, the changing capabilities of the physical environment to absorb the wastes of human activity, the changing possibilities opened up by new knowledge and technological changes and the values, aspirations and institutions that channel human behaviour. Thus, visions of a sustainable world must naturally change in response to shifts in any part of this dynamic relationship.

The knowledge of sustainability as a constantly evolving process further establishes the fact that it is not only impossible but also unrealistic to try and decide upon a blueprint for sustainability. Due to constant changes in power, knowledge as well as the existing natural, social and human capitals on the earth, establishing a fixed conceptualisation of sustainability is a weak and unreliable option for development. Instead, a pragmatic approach is to operationalise sustainability by using the two essential characteristics mentioned above – the need for a holistic approach and the evolving nature of the concept (Scanlan and Gillen 2004).

1.2   PLANNING FOR SUSTAINABILITY

Given the extremely high degree of inequality between different parts of the world – North and South – there is little doubt that the concept of sustainability and its operationalisation necessitates consideration of priorities particular to each context (O'Riordan and Voisey 1998a; Lehtonen 2004). The only commonality however, between the interpretations of sustainability across these different regions is the idea of a holistic vision (Becker and Jahn 1999). A multidisciplinary, collaborative and a systemic approach in conceptualising sustainability is thus essential to address the challenge of reforming the planet and developing tools to undo poverty and the deep global imbalance that exists today between and within different regions in the world (Caswell 2001; Brown 2004).

Holistic sustainability is therefore, indispensable for a 'grounded' operationalisation of a concept that is otherwise constantly evolving. In addition, a holistic sustainability approach also contributes to foster equitable development across the North-South divide (O'Riordan and Voisey 1998a). The holistic dimension to the concept helps in maintaining a balanced framework for policy making and development, thereby resulting in the reduction of wide social, economic and environmental gaps between different parts of the world.

Having established the need for a holistic approach to sustainability however, only partly helps in delivering holistic sustainability. The challenge of operationalising sustainability remains colossal due to the concept's underlying complexity. To address this challenge, the literature suggests planning as an efficient tool (Owens and Cowell 2001; Brown 2004; Scanlan and Gillen 2004; Hague 2007). Gleeson's (2003, p.26) argument that '[planning] is now set firmly beneath the rubric of sustainability' further strengthens the link that exists between planning and sustainability operationalisation. A planning pathway that is inclusive – and thus pluralistic in nature – underscores the possibility of a long-term practical outcome with respect to operationalising sustainability.

This research is based upon the two premises discussed above. One, a holistic vision is an inevitable requirement to establish a future-oriented pragmatic conceptualisation of sustainability. Two, the adoption of a fair and consistent planning approach is necessary to operationalise

sustainability. Drawing extensively from these two sets of knowledge, this research is an attempt to address the 'sustainability problematique' through a concerted approach (Pirages 1994). The latter requires digressing from the conventional process of knowledge building and moving towards a cross-sectoral and a multidisciplinary method of analysing the nuances associated with planning approaches that aim to achieve holistic sustainability.

1.3   RESEARCH PROBLEM AND QUESTIONS

This research seeks to evaluate and assess the success or failure of current planning processes to achieve sustainability. To do so, the research has established planning criteria that are essential to realise holistic sustainability. As will be discussed in detail in Chapter Four, two main sets of planning criteria have been developed – substantive and process-related. In totality, these criteria are expected to provide a comprehensive analysis of the efficacy of plans in achieving holistic sustainability. Two case studies – one in a developing, and another in a developed, region – have been used to suggest answers to the main research questions.

The following research problem summarises the overarching aim of the thesis:

> **Research problem:** Numerous attempts have been made to foster the general understanding of sustainability. Despite these attempts, the conceptualisation of sustainability has been weak and not holistic. As a result, its operationalisation – or, the transformation of ideas from theory to practice – has been disappointing. This research therefore, aims to expedite the process of sustainability operationalisation in different settings. In doing so, it aims to evaluate the efficacy of the current planning pathways to holistic sustainability. The focus of this research throughout is therefore, on the 'how' and 'why' rather than the 'what' aspects of the sustainability process.

Based on this generally broad problem area, two specific research questions have been established:

> **Research question 1:** How effective are contemporary approaches to planning for sustainability?

Besides comprehending the efficacy of the current planning processes with regard to achieving sustainability, the other issue which the research aims to address deals with operationalising sustainability across the North-South divide. The research question thus suggested is as follows:

Research question 2: How do planning efforts concerned with achieving sustainability in different regions – developed and developing – differ, to ensure that the diverse institutional, social, economic, cultural and environmental particularities of those regions are taken into account?

A wide range of definitions and understandings associated with sustainability is discussed in Chapter Two. It discusses the origin of the concept and draws together a multitude of interpretations and conceptualisations from the current literature, particularly those which have shaped the knowledge of sustainability across different disciplines and geographical boundaries. The knowledge gained from the literature in establishing the idea of holistic sustainability, together with lessons drawn from two 'successful development examples' discussed in Chapter Three suggested the criteria essential to ensure efficient planning for sustainability.

These criteria were then applied to the two case studies undertaken in developing (Kerala, India) and developed (Sweden) contexts. It was decided to conduct two case studies to shed light on the efficacy of planning for sustainability across the North-South divide. This was expected to particularly help in answering the second research question. Considering that the two case study regions had significant difference in scales – Kerala is a state in India while Sweden is a country – it was duly appreciated from the outset that both regions had enormous differences with regard to their socio-cultural, institutional, economic and environmental arrangements. It was further acknowledged that these differences would thereby have strong influence on the process of operationalising sustainability.

Nevertheless, the underlying idea behind choosing such different regions was to build theory that would contribute towards facilitating practical understanding of the various ways in which sustainability was perceived across widely different regions. Besides, contrasting socio-economic and institutional settings were also expected to explain rationales behind how and why various aspects of sustainability were prioritised according to contextual requirements. Therefore, applying

the planning evaluative criteria across case studies in developing and developed regions alike helped in comprehending the efficacy of planning in operationalising holistic sustainability in light of very different institutional, social and economic challenges.

1.4   JUSTIFICATION FOR THE STUDY

This study is concerned with establishing the fundamental need for holistic sustainability. In doing so, it highlights the significance of effective planning to operationalise sustainability. The significance of this research therefore, is manifold. Firstly, the research contributes to the establishment of an understanding of sustainability that is efficient and pragmatic across different regions on the earth. It therefore, underpins the importance of multidisciplinary and value additive planning synergies as being at the core of any discussion on sustainability.

Secondly, the research provides a clear analysis of the differences in planning – its substantive elements as well as the overall process – across developing and developed regions with respect to sustainability operationalisation. While the intention was not to develop a blueprint for sustainability, for that may never be possible, the overarching objective instead was to develop knowledge on sustainability operationalisation that would encourage every region to establish a context-specific planning strategy to move towards holistic sustainability. Besides these two main issues, the study will further theoretical and practical knowledge on sustainability and planning in a number of ways.

1.4.1   Theoretical significance

The research provides a comprehensive account of the criteria essential for planning that aim to expedite the transition to sustainability. It not only focuses on the substance of a plan aimed to achieve sustainability but also places emphasis on the importance of the process of planning. The issue of 'how' planning is undertaken has been acknowledged 'to be at the heart of planning for sustainability' (Gillen and Scanlan 2004, p.62). It is the latter which has often been neglected or attended to only vaguely in the development of sustainability's conceptual and operational understanding (Owens and Cowell 2001; Gillen and Scanlan 2004; Hague 2007).

The analysis of the two case studies also contributes to the literature on sustainability by producing an account of the 'real' sustainability progress in Kerala and Stockholm – regions that have been considered 'models' for their exceptional social and environmental planning respectively (Parayil 2000; Thakur, Keen, Horvath and Cerra 2003). The study's focus on the range of sustainability planning issues across developing and developed regions therefore, significantly advances the existing theory on North-South sustainability planning and global imbalance. Furthermore, a grounded analysis of the varied perceptions of sustainability across regions with different institutional, social, economic, historical and environmental settings will assist in developing suitable policy strategies to achieve holistic sustainability simultaneously in both North and South.

1.4.2   Practical significance

The empirical component of this research that uses case studies to analyse the effectiveness of contemporary planning approaches to sustainability will encourage an effective exchange of ideas and actions between theory and practice across developed and developing regions. The results from this research are therefore, expected to be useful in framing policies and guiding institutional governance in a manner that de-intensifies the current trend of inequity and unethical exploitation of resources.

The practical importance of the study is further strengthened as it highlights the need to move beyond the current practices of knowledge compartmentalisation across social, environmental, economic and institutional boundaries to a more robust system of multidisciplinarity and cross-sectoral integration. The establishment of a set of planning evaluation criteria further enhances the prospect of evaluating the 'real' performance of sustainability plans – their design as well as process. In its entirety, the research operationalises sustainability by providing, 'a more empirical and holistic view of what occurs, how decisions are made … and how the whole system operates – in terms of both policy development and implementation' (Morrison, McDonald and Lane 2004, p.244).

1.5   RESEARCH METHODS AND DESIGN

The theoretical framework for this research was based on the assumption that it may not be possible to develop a consensus on the understanding of sustainability (Pirages 1994). The contesting nature of sustainability was appreciated from the outset (Morrison, McDonald and Lane 2004). As a result, it was acknowledged that developing a standard definition of the concept of sustainability would not be optimal owing to vast differences in the world both at the discipline level (natural, social or political science) as well as the geographic level (developed and developing regions). Based on this understanding, the need for a holistic vision of sustainability, as supported by the literature (Reid 1995; Sachs 1999), was established as the most appropriate theoretical approach to the study. The research work was primarily action-orientated and was based upon the current literature from natural and social sciences including available critique on sustainability and planning.

A case study approach was considered the most appropriate research strategy for this study. According to Yin (2003, p.11) a case study strategy is most suited, 'when a 'how' or 'why' question is being asked about a contemporary set of events over which the investigator has little or no control'. The research objectives – mentioned previously as the two main research questions – satisfied Yin's primary criteria for the use of a case study research strategy. The research was essentially qualitative as it proposed to investigate the efficacy of plans aimed to achieve sustainability. The complexity associated with operationalising sustainability from a holistic perspective further added to the explanatory nature of the research. The simultaneous understanding of complex social, economic, environmental and political phenomena across different regional settings required developing an explanation which only a case study could comprehensively deal with (Yin 2003).

To analyse planning efficacy in achieving sustainability across the developing-developed region divide, a multiple-case design was applied that made use of two case studies, one from each region. Evaluative criteria established in Chapter Four were used not only as a guiding tool during data collection in the field but also to analyse the final effectiveness of planning efforts aimed towards achieving sustainability. The analysis of the two studies highlighted inherent differences

between the perception and operationalisation of sustainability across the North-South divide. Following this analysis, analytic generalisations were made to bring to light areas and opportunities where plans – inclusive of their substance as well as the process – should remain flexible to take into account context-specific differences, thereby allowing integrated and long-term progress in the direction of holistic sustainability.

There were three main sources of data collection in Kerala and Sweden: open-ended in-depth interviews, documents and archival records, and participant observations. Focus group discussions in Kerala were an additional source of data to allow interaction with certain groups where a broader but generic discussion was considered more useful than in-depth personal interviews. Personal research and local academic knowledge and experiences were used to identify key interviewees. The 'snowballing' technique was later applied to develop further contacts and decide upon potential interviewees. A list of interview prompts was used to guide the interview process. A total of 17 interviews were conducted in Kerala while 25 could be arranged in Sweden. Each interview lasted for about an hour. Due to a broad range of issues raised during the interviews, it was considered essential to assimilate and analyse the interviewee responses manually by the researcher so as to establish a comprehensive account of all field responses. The objective of operationalising sustainability from a holistic perspective was largely responsible for the vast variety of issues and responses highlighted during field discussions. It was therefore, considered critical to avoid the use of any analysis software that could possibly skip significant issues thereby skewing the final outcome of the research.

The research strategy used in this research, including its design and conduct, is explained in greater detail in Chapter Five.

1.6   LIMITATIONS AND CONSTRAINTS

Constraints in any research activity are not only likely but also often unavoidable. A research project that involves case studies may include a multitude of issues beyond human control (Yin 2003). This research therefore, acknowledges that constraints of empirical as well as theoretical

nature may have affected this study during its design and analysis stages. The following is an attempt to highlight some important limitations to the study.

Due to a number of different sources used in the process of gathering data, the reliability as well as the validity of the final results could be questioned. Ethical issues (e.g. participant anonymity) in the field further aggravated the limitations posed in the process of data collection and final analysis. The participant's subjectivity towards informing the 'reality' – partly or differently – could question the reliability of the data. There were also occasions where data required from the field was either obsolete or not available at all. In such instances, intelligent trade-offs were made. The latter could thus have a significant effect on the final analysis.

Apart from constraints in the process of data collection, the following general constraints were faced during this research:

1. No more than two case studies were possible due to time and budget limitations;
2. Although the case study research strategy has been considered useful in building theory by allowing analytical generalisations (Yin 2003), the contesting and challenging nature of sustainability as a concept could contribute to theory without making any significant analytical generalisation possible; and
3. The development of the evaluative criteria for planning for sustainability – despite extensive literature review and analytical rigour – could have still been influenced by the researcher's subjectivity. This could thus have potential effect on the final research outcome.

1.7   STRUCTURE OF THE THESIS

This thesis comprises nine chapters. A diagrammatic overview of the thesis structure is presented below in Figure 1.1. *Chapter One* introduces the research background. It describes the research problem and primary research questions that the research seeks to answer.

Figure 1.1: Diagrammatic view of the thesis structure

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                        │   Chapter 1,     │
                        │   Introduction   │
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        ┌───────────────────────┼───────────────────────┐
┌───────────────────┐  ┌──────────────────┐  ┌──────────────────────┐
│ Chapter 2,        │  │ Chapter 3,       │  │ Chapter 4, Planning  │
│ Sustainability    │  │ Literature       │  │ and evaluation       │
│ conceptualisation │  │ examples         │  │ criteria             │
└───────────────────┘  └──────────────────┘  └──────────────────────┘
                        ┌──────────────────┐
                        │ Chapter 5,       │
                        │ Research methods │
                        │ and design       │
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            ┌────────────────┴────────────────┐
   ┌──────────────┐                    ┌──────────────┐
   │ Chapter 6,   │                    │ Chapter 7,   │
   │ Kerala       │                    │ Sweden       │
   └──────────────┘                    └──────────────┘
            └────────────────┬────────────────┘
                    ┌──────────────────────┐
                    │ Chapter 8, Discussion│
                    └──────────────────────┘
                    ┌──────────────────────┐
                    │ Chapter 9, Conclusion│
                    └──────────────────────┘
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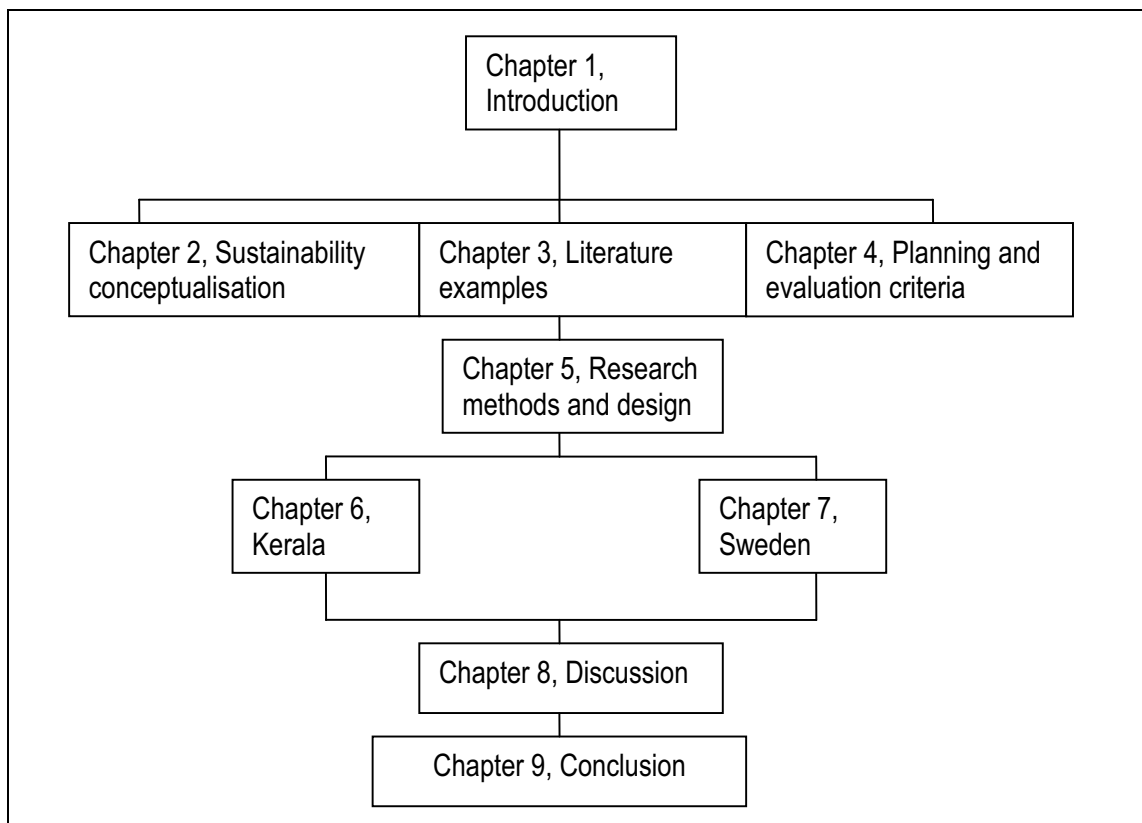
Chapter Two conceptualises sustainability. The chapter begins with a discussion of the origin of the concept of sustainability followed by its existing meanings and interpretations. The different perspectives and priorities that define sustainability across the North (developed) – South (developing) divide is also carefully examined. The chapter finally ends by suggesting guidelines that can help achieve long-term transition from the current state of compartmentalised knowledge development to one that fosters holistic sustainability.

Chapter Three discusses two examples (from Brazil and the USA) which have been able to show reasonable success in their efforts towards achieving sustainability. The chapter seeks to study these examples and learn from their successes and failures in order to contribute to the development of knowledge on sustainability operationalisation. *Chapter Four* deals with the issue of planning and establishes planning's fundamental links with the idea of holistic sustainability. The chapter begins with a brief planning history and follows it up with a discussion on the intricate but

principal relationship between effective planning mechanisms and sustainability operationalisation. The chapter focuses on the substance of the plan as well as on the process of planning. A comprehensive set of substantive and process criteria is established to evaluate the efficacy of contemporary plans in achieving holistic sustainability.

Chapter Five focuses on the research design, methodology, materials, and methods applied during the course of this research. It provides information on the process and methods used for data collection and the strategies for the selection of the case study sites. Besides presenting the epistemological and the theoretical foundation that has guided this study, the chapter also addresses the issue of rigour and suggests various steps undertaken to ensure a high quality of research design and results.

Chapters Six and Seven develop the case studies of Kerala and Sweden using the data collected from the field. Each chapter presents background information of the area under study and subsequently discusses the challenges and achievements that shape the institutional, social, economic and environmental sustainability planning approaches in the case study region. *Chapter Eight* analyses the two cases with respect to the research problem and the primary questions outlined in Chapter One. The theoretical basis for the analysis is drawn from the planning evaluative criteria developed in Chapter Four. *Chapter Nine* is the final chapter of the thesis that presents conclusions drawn from the research and generates an overview of the important findings of the thesis. The chapter ends by recommending future directions for research.

CONCLUSION

This chapter has provided a brief background to the fundamental issues of sustainability and planning addressed in this research. It has produced a comprehensive account of the main research problem and the two primary research questions that this research attempts to answer. Besides, the chapter has also provided theoretical and practical rationales that justify the short- and long-term significance of this research. Furthermore, the chapter has outlined the basic thesis structure and has briefly explained the methodology applied in conducting the research. The next chapter explores how the existing literature interprets sustainability as a concept.

CHAPTER TWO

CONCEPTUALISING SUSTAINABILITY:
ITS MEANINGS, PRINCIPLES AND CHARACTERISTICS

INTRODUCTION

For over two decades now, sustainability has been the central theme of several discussions related to governance, socio-economic development, environmental quality, or the future of the planet as a whole. Despite several attempts to conceptualise sustainability, its complete understanding has remained elusive (Becker and Jahn 1999; Keiner 2004; Kallio, Nordberg, and Ahonen 2007). Metaphorically speaking, sustainability as a concept has so far behaved like the tip of an iceberg. The more one attempts to capture it, the more fascinating it seems, yet all attempts continue to remain futile as the rock of ice remains slippery and freezing. In addition, like an iceberg where much lies beneath the surface, sustainability is considered a 'problematic' concept where lack of 'true' knowledge of its meaning and practical application baffles scientists and researchers across the world.

This chapter attempts to view sustainability from across different disciplines but in a focused manner. The chapter is divided into four sections. The first discusses the origin and the history of the concept along with the conditions that established its significance across studies in different discourses. The next section discusses how the concepts of sustainability and sustainable development have been conceptualised. Section 2.3 then attempts to understand sustainability against the backdrop of the world's division into developing and developed regions. It presents an example that highlights a successful cooperative effort undertaken to achieve sustainability in both North and South. Section 2.4 presents the idea of holistic sustainability. It studies two challenging concepts, scale and ethics, and their roles in achieving sustainability. Finally, the chapter concludes by recommending important principles that are integral to the process of making a transition to holistic sustainability.

However, before discussing the evolution of sustainability, it is important to clarify the confusion underlying the oft-cited terms of sustainability and sustainable development. The simultaneous use of these concepts often creates confusion. The discussion below is expected to enhance the theoretical understanding of the differences between sustainability and sustainable development with regard to their perception and usage.

SUSTAINABILITY OR SUSTAINABLE DEVELOPMENT?

Sustainability and sustainable development are two equally popular issues that are considered essential for planning the wellbeing of present and future generations. In fact, 'Sustainable development and sustainability are … almost certainly the supreme global political issue(s) of this century' (Prugh and Assadourian 2003, p.11). To begin with, a historical analysis suggests that sustainable development appears to be a more commonly used term in comparison to sustainability (Mitlin 1992). Hitherto, while there have been numerous definitions of sustainable development (WCED 1987; Moffatt 1996; Elliott 1999), relatively fewer are found in the literature for sustainability (Becker 1999; Johnston, Everard, Santillo, and Robert 2007).

At the same time, a survey of relevant literature for the period of 1987-2001 suggests that sustainability has gradually succeeded in surpassing sustainable development in terms of scientific preference (Schubert and Lang 2005). However, focus on mere numbers does not provide any substantial support in logically differentiating the usefulness of the two concepts. On the contrary, the contexts in which these terms are used provide a slight indication of differences in their significance. While governments, private organisations and civil societies continue to use sustainable development as a guide to policy and decision making, the informal sector comprising local citizens, academia and social scientists prefers to address sustainability as the key word in their discussions (Robinson 2004).

Having said this, there is evidence that researchers have continued to make their own choices between sustainability and sustainable development. For instance, Newman (2006) prefers sustainable development because he feels that sustainability and development go hand in hand and rather complement each other. Instead, only using sustainability would be incomplete as it

'tends to imply a stasis that does not reflect the reality of changing societies and ecosystems, and the need for development' (Newman 2006, p.634). At the same time, Johnston *et al.* (2007) argue in favour of sustainability by suggesting that development needs a redefinition. Sustainability, they assert, offers a progressively evolutionary platform that 'adequately captures all aspects of the economic, environmental and societal elements involved in the overall concept [of sustainable development]' (Johnston *et al.* 2007, p.61). Thus, while there is no doubt that both concepts have distinct philosophical and ideological meanings, the choice between the two has often been sporadic and subjective (Rios-Osorio, Lobato, and Del-Castillo 2005).

Another aspect that may help differentiate between sustainability and sustainable development is the potential to which each is able to manage issues from a wider perspective. Sustainability, as a concept, produces an impact that calls for management across a range of subjects – economic, environmental, social, cultural, and institutional – and also across various sectors: government, corporate, and public (Newman 2001; Luke 2005). According to Hopwood, Mellor and O'Brien (2005, p.40), sustainability 'is used to justify and legitimate a myriad of policies and practices ranging from communal agrarian utopianism to large-scale capital-intensive market development'. Redclift (2005, p.223) further supports the constantly expanding scope of sustainability by suggesting that 'sustainability is no longer primarily a question of maintaining, and enhancing existing … resources; it is about engineering new ones'.

Sustainable development, on the other hand, commands development above all. Development, as Reid argues, is 'growth plus change' (Reid 1995, p.44). Growth is finite and measurable. As one of the two components of sustainable development is finite in scope, the concept maintains a rather limited scope of operations and meanings. In light of such observations, it may be argued that contrary to Rios-Osorio, Lobato, and Del-Castillo (2005, p.508) who claim sustainability to be a part of the larger sustainable development idea, it is actually the other way around. Prugh and Assadourian (2003) further suggest that sustainability is the bigger picture of which sustainable development is an indispensable dimension. 'To achieve sustainability requires sustainable development.' (Prugh and Assadourian 2003, p.11)

Having said this, there is still widespread belief that sustainability and sustainable development are essentially substitutable concepts. As Giddings, Hopwood and O'Brien (2002, p.188) point out:

> One option to the dilemma of meanings over sustainable development is to change the use of words to sustainability … [to] avoid some possible conflicts between economic growth, social equity and the environment and instead focus on human needs and the environment.

Furthermore, sustainability has been categorised into weak and strong types in the past (Reid, 1995; Hull 2008). A recent article reinstates the same principle of weak and strong except that it replaces sustainability by sustainable development (Redclift 2005; Kallio, Nordberg, and Ahonen 2007). This is one of the many examples that emphasise the common ground between the two concepts and suggest that their substitutability is not only convenient but also frequent and justified.

It may thus be argued that both sustainability and sustainable development are important concepts for each is based upon two basic principles. Firstly, each demands efforts to achieve long-term existence for all human and non-human life on the planet. Secondly, and more importantly, both concepts focus on synchronising human consumption and production in accordance with the earth's natural capacity. Both sustainability and sustainable development therefore, have one common objective – *to sustain*. While sustainable development argues for development that can be sustained for many generations to come, sustainability is dependent upon human beliefs, thoughts and challenges to deliver a future-oriented process across different sectors of society, economy and the environment. From this outlook, none of the two appears to be any less or more significant than the other. Both concepts aim to maintain a) a good quality of social life; b) a healthy environment; and c) an economy that supports both a) and b) on a long-term basis.

In practice, both concepts have been considered and used alternately; both have emerged to be equally intelligent yet empty (Mitlin 1992; Mog 2004; Johnston *et al.* 2007; Kallio, Nordberg, and Ahonen 2007; Jabareen 2008). While sustainable development has often been called an oxymoron (Redclift 2005), sustainability, at the same time, has also been considered too vague to imply anything of importance (Mog 2004). For many scientists and scholars, sustainability may be a more engaging idea, yet, for others, 'sustainable development is a social movement … working both

from above and below' (Luke 2005, p.233). Such logical tendencies to favour one over the other highlight a simple but important understanding – *sustainability and sustainable development convey the same meaning, aim for similar objectives and maintain a reasonably similar method of being transposed from theory to action.*

Practically speaking, 'development is open to confusion, with some seeing it as an end in itself.' (Hopwood, Mellor and O'Brien 2005, p.40) and it is precisely in these circumstances that sustainability has emerged as a stronger and an all-inclusive concept. As Campbell (1996, p.312) suggests, 'in the battle of big public ideas sustainability has won: the task of the coming years is simply to work out the details, and to narrow the gap between theory and practice'. Becker, Jahn and Stiess (1999, p.4) further argue that sustainability does not entail bias for any specific feature of the environment or the society, but '[it] refers to the viability of their relationships over long periods of time'. Since this research deals with issues of practical operationalisation and in the process, aims to bridge the gap between theory and practice, it prefers to use the concept of sustainability over the more complex and contested but common phrase of sustainable development.

2.1 EVOLUTION AND ORIGIN OF SUSTAINABILITY

This section tracks the origin of sustainability and determines how it has evolved over the past decades into such a widely used catchword. The idea therefore, is to produce an account of the major milestones that have contributed to strengthening the need and relevance of the concept of sustainability. The following chronological turn of events may not be exhaustive but includes the major turning points that have firmly established the concept of sustainability in the long run (see table 2.1 below).

2.1.1   Historical account of the evolution of sustainability

More than six decades ago, Mahatma Gandhi said, 'there is enough for everyone's need but not for everyone's greed' (Gandhi 1947).[1] The term 'sustainability' *per se* was not known then but the

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[1] Cited in Myers (1997, p.33)

underlying idea had been seeded. Ideas of human dominance over nature go back several centuries. As long as activities remained under control in that both nature and the larger environment were able to cope with human-led manoeuvring of the earth and its resources, nothing much seemed to account for any cause of worry (Pezzoli 1997). However, the inherent characteristic of every civilisation suggests that a complete state of balance is not always feasible (Skowronski 2008).[2] As a result, the relationship between nature and humans gradually started to change for the worse.

Table 2.1: The evolution of sustainability – chronology of significant milestones

Year	Milestone
1949	A Sand County Almanac (Aldo Leopold)
1962	Silent Spring (Rachel Carson)
1972	The Limits to Growth (The Club of Rome)
1972	The United Nations Conference on the Human Environment (UNCHE), Stockholm
1980	World Conservation Strategy (WCS)
1987	Our Common Future – Brundtland report (World Commission on Environment and Development)
1992	The United Nations Conference on Environment and Development (UNCED) – Earth Summit, Rio de Janeiro
2002	World Summit on Sustainable Development (WSSD), Johannesburg

One of the first works to notice this change and suggest possible havoc on the earth was Aldo Leopold's *A Sand County Almanac* (Leopold 1949). Leopold's question (1949, p.186), 'do human populations have behavior patterns of which we are unaware, but to which we help to execute?' generated a focus on the existing mindsets of society which, according to him, were bent upon exploiting the earth and all its resources to the maximum limit. Leopold was also one of the first great researchers to advise on the importance of ethics – ecological as well as philosophical. He argued that the extension of ethics in human relationship with the earth's resources (land, water,

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[2] According to Skowronski (2008, p.118), a civilisation marks the 'degree of development of a society in a given historical period, this being characterized by a defined level of material culture, degree of mastery over the natural environment and accumulation of social institutions'.

living and non-living forms) was 'an evolutionary possibility and an ecological necessity' (Leopold 1949, p.203).

Following Leopold's succinct and powerful account of mankind's predicament was Rachel Carson's *Silent Spring*. The latter surprised the governments and peoples worldwide by bringing out scientific facts to the common public in ways never tried before (Carson 1962). As Brooks (2000, p.xvi) argues, 'Her book helped to make *ecology*, which was an unfamiliar word in those days, one of the greatest possible causes of our time'. Carson's work was one of the first accounts to bring to forefront the inescapable madness being executed by humans that affected almost all living and non-living forms on the earth. Carson (1962) cited examples from around the world which showed the undignified activities of humans. 'The rapidity of change and the speed with which new situations are created follow the impetuous and heedless pace of man [*sic*] rather than the deliberate pace of nature.' (Carson 1962, p.6) Her work was thus considered a muted warning of possible threats which would unfold gradually if neglected any further. According to Peterson and Peterson (2000), the main argument of Carson's work has been to protect nature and show concern for the environment as both are indispensable in sustaining life on the earth.

Carson's question (1962, p.10), 'Have we fallen into a mesmerised state that makes us accept as inevitable that which is inferior or detrimental, as though having lost the will or the vision to demand that which is good?' encouraged governments and societies to assess their existing behavioural patterns. Her work became a trendsetter for all future scientific and non-scientific discussions as it brought together actors with varied interests from different sectors to work towards protecting nature's exploitation. *Silent Spring* is thus considered responsible for initiating the trend of analysing issues of concern from more than a single perspective. As Lutts (2000, p.18) confirms, 'Never before had so diverse a body of people – from bird-watchers to wildlife managers and public health officials, to suburban homeowners – been joined together to deal with a common national and international environmental threat.'

With works like *A Sand County Almanac* and *Silent Spring*, the debate on the treatment of nature by humans and the resulting environmental threats had already begun. It was now required to further strengthen concern over these issues by devising an official and a far-reaching strategy that

would be able to formally reach those parts of the world which were still ignorant of the certainty of such gradual devastation. The Club of Rome's report *The Limits to Growth* published in March 1972 has been, without doubt, an important milestone in this direction (Meadows, Meadows, Randers and Behrens 1972; Rios-Osorio, Lobato, and Del-Castillo 2005; Hull 2008). The idea of creating a world model that appreciated the interrelationships between various facets of development was not only new but also turned out to be a useful tool to suggest limits to relentless development in the future. By focusing on the concepts of synergy and multidisciplinarity essential for long-term development, the report addressed the 'world problematique' (Meadows *et al.* 1972, p.10) and contributed to 'understanding and preparing for a period of great transition – the transition from growth to global equilibrium' (Meadows *et al.* 1972, p.24).

The authors of *The Limits to Growth* focused on three main points to attain the global equilibrium: technological advancement, development of moral and ethical human values, and spread of equality between rich and poor. Although the real concept of sustainability was not established until late, the idea of creating 'a world system that is sustainable without sudden and uncontrollable collapse; and [which is] capable of satisfying the basic material requirements of all its people' (Meadows *et al.* 1972, p.158) was established by this group in 1971 at important international discussion forums. The report's most significant contribution was the encouragement it gave to people from different sections of the society to work concurrently across institutional, social, cultural, environmental and economic domains (Rios-Osorio, Lobato, and Del-Castillo 2005). The models and suggestions given by the Club of Rome might not have been truly feasible but the big picture was clear. The message and the accompanying anxiety that the group aimed at transpiring to the general public was achieved successfully.

In the following years, more discussions of similar nature evolved of which several gained international attention. The significance of the issue was slowly becoming overwhelming due to the lack of understanding of any immediate solution in the offing. The United Nations Conference on the Human Environment (UNCHE) held in Stockholm in 1972 has been another important milestone. The international scope of the conference brought together different government and civil society bodies to devise solutions to diverse social and environmental problems threatening future development (UN 1973).

The conference linked issues pertaining to the environment in a narrow context to over-industrialisation in the developed world and to poverty and poor quality of life in the developing countries. UNCHE has largely been considered responsible for establishing a global agenda on the environment and its conservation besides also setting an international platform for future conglomerations of relevant actors (Adams 1995). As Seyfang (2003, p.224) argues, 'For the first time [the conference] brought together world leaders and scientists to discuss growing international environmental concerns such as trans-boundary air and water pollution'. In the process, the conference established recommendations and principles for human behaviour with the environment, which later became the fundamental building blocks of the concept of sustainability. The Stockholm conference is therefore, considered a landmark in the history of the evolution of sustainability (Adams 1995).

Having said this, the biggest flaw underlying the conference was its limited scope, thereby suggesting a narrow and isolated focus on the environment (Mebratu 1998). Out of a total of 109 recommendations for action at the international level, only twenty vaguely addressed the issues of economy and society (UN 1973). UNCHE paid negligible attention to the interaction of environment with other diverse but closely related dimensions of development and human wellbeing. It therefore, failed to develop a broader agenda that was comprehensive enough to cut across institutional, social, environmental and economic boundaries.

Since the UNCHE, there have been numerous international breakthroughs, each of which has prioritised one or more elements of the environmental-economic-social nexus. Of these developments, the establishment of the *World Conservation Strategy* (WCS) in 1980 has been of particular significance. It was in this report that sustainable development appeared as an official expression for the first time (IUCN 1980). Although the primary focus of the WCS was conservation of nature and its resources, it nevertheless appreciated that conservation and development were not only mutually dependent but also essential to ensure the welfare of all life on the earth. According to Munro, director general of the IUCN, the WCS 'reflects a compromise among conservationists … and between conservationists and the practitioners of development' (IUCN 1980, p.II).

The response that the strategy received from various governments was mixed. WCS's underlying theory of bringing ecology and economic development to a common ground was particularly well received by the developing countries (Moffatt 1996). Paradoxically however, the WCS remained ineffective in providing an interwoven and synergistic approach to achieve sustainability. The focus on the conservation of biosphere was too extensive to blend well with the strategy's long-term objectives of social and economic development (Mitlin 1992). Furthermore, the conventional top-down approach adopted by the WCS, while essentially calling for public participation and large-scale environmental awareness, failed to deliver suitable opportunities to encourage realistic participation of the 'average citizen' (Mitlin 1992; Moffatt 1996, p.12).

Following the WCS, the concept of sustainable development was officially defined for the first time in March 1987 in *Our Common Future* – a report prepared by the World Commission on Environment and Development (WCED) (WCED 1987). This has been one of the biggest watersheds in the historical progression of the concept of sustainability (Pezzoli 1997; Mebratu 1998). Also known as the Brundtland report, it has made immense contribution in firstly, establishing, and subsequently, propagating sustainable development as a 'concept of great geopolitical significance and the catch phrase it has become today' (Mebratu 1998, p.502).

The report has invited a plethora of mixed responses. Several social and natural scientists agree that the report's strongest emphasis was on continued economic development (Eichler 1999; Elliott 1999). The commission believed that a strong economy would generate resources to address poverty in the developing world and develop technologies worldwide to discontinue the rapid environmental deterioration (Momtaz 1996; Mebratu 1998). Furthermore, Elliott (1999) and Mitlin (1992) argue that the Brundtland report took a bold step by deciding to bring together several issues (e.g. poverty, technology, pollution and social equity) that were dealt with in isolation from each other in the past. The unifying approach with which the report moved across various pressing concerns – from population to energy to civil society and local citizen involvement to poverty and biosphere – provided a strong foundation for all future endeavours on sustainability conceptualisation. Besides, the report also brought together decision makers from different fraternities to work cooperatively to achieve the common objective of long-term human and environmental wellbeing (Moffatt 1996).

Despite these efforts to its credit, *Our Common Future* suffered from a major limitation. It overlooked the necessity of practical guidelines required to expedite the process of achieving sustainability. While the commission suggested several pre-requisites and challenges to sustainable development, it failed to propose strategies and tools to make the much-needed transition from rhetoric to action efficiently (Moffatt 1996). However, despite these practical limitations, the Brundtland report remains, without doubt, the most important milestone in the evolutionary history of sustainability as it succeeded in delivering and establishing the concept of sustainable development permanently and effectively.

Following the Brundtland report, politically, the stage was set to take actions in exploring the concept to its fullest (Acselrad 1999; Choucri 1999). *Our Common Future*'s lack of a framework for action demanded work on 'establishing the foundations for effecting the transition to sustainable development.' (Lenehan 1992) It was to this effect that the United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit, was held in 1992 in Rio de Janeiro. The Rio conference, claimed by some as 'the biggest international event in the history', delivered two main results (Lenehan 1992; Sitarz 1993; Elliott 1999). Firstly, it produced a set of twenty seven principles emphasising the role and responsibilities of each nation in achieving global wellbeing. Secondly, the conference developed Agenda 21, an action plan to address immediate issues of concern discussed in *Our Common Future* and at the Rio Summit.

According to Momtaz (1996, p.262), 'The main contribution of the Rio conference is incontestably the effort to reconcile the imperatives of environmental protection and the demands of economic development'. The UNCED also stressed the importance of global partnerships to address pressing socio-environmental demands (Pezzoli 1997). This was particularly salient about the Rio conference, for never before had partnerships been formally considered crucial to the conceptual understanding of sustainability. Further, the application of bottom-up, participatory approaches to operationalise sustainability and the subsequent formulation of Local Agenda (LA) 21 have been other positive outcomes of the UNCED (Elliott 1999).[3]

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[3] LA 21 is an action plan that focuses on the involvement and empowerment of the disadvantaged sections of the society by facilitating their participation in the process of achieving sustainability (Selman 1998).

Despite several positive developments at Rio, some of the most basic issues related to development and wellbeing were poorly dealt with; the most urgent one being poverty. Madeley (1992, p.302) argues, 'This was a summit that paid more attention to future threats than existing tragedies'. Essentially, the Earth Summit followed on the principles of *Our Common Future* by making three primary recommendations: the need of prudence in the use of natural capital, faith in free trade and economic growth, and the importance of global partnerships and international cooperation in ensuring economic and environmental wellbeing across nations (Pezzoli 1997). In sum, 'Rio defined sustainability in economic, social, and environmental terms, and postulated the interdependence and indivisibility of these factors' (Hales and Prescott-Allen 2002, p.40).

Post-UNCED, the next big event *en route* the evolutionary process of sustainability was the World Summit of Sustainable Development (WSSD) organised in Johannesburg in 2002 (UN 2002). The underlying idea was to analyse and map the performance of individual nations and governments in achieving sustainability since the Earth Summit. According to Seyfang (2003, p.225), the Johannesburg meeting 'was the most socially oriented of the environmental mega-conferences, reflecting the evolution of sustainability thinking over the decades'.

The objective of WSSD was threefold: a) to review the status of agreements made at the Earth Summit; b) to discuss new commitments needed to expedite the process of achieving sustainability; and c) to shed light on crucial issues like sanitation and energy which were left out from discussions in Rio (UN 2002). Despite its precisely laid-out objectives, it is argued that the Johannesburg summit failed to live up to the expectations of its participants on more than one account. According to Gutman (2003, p.23), 'integration of social, environmental, and economic concerns does not exist in the WSSD output, which is rich in rhetoric but poor in commitments to challenge the current business-as-usual trends'. The *Plan of Implementation* – WSSD's only outcome – was considered practically weak and unproductive (Speth 2003a). In fact, the final outcome of WSSD has been compared with the basic nature of the concept of sustainable development in that both have been equally vague and 'unwieldy' (Speth 2003a, p.28).

To summarise, there have been numerous events in the past decades that have debated the trajectory of man's behaviour with the environment. Many of these events have contributed to

deepening our understanding of constant deterioration in the socio-economic and environmental conditions essential for long-term wellbeing of all life forms. The evolution of the concept of sustainability has been a cumulative result of the historical events that have taken place to discuss causes of such widespread deterioration and possible solutions to prevent further exploitation in the future. The following section discusses how sustainability has been perceived conceptually over the last few years. In doing so, it discusses various challenges that exist with regard to its meaning and conceptualisation and also examines which contexts and discourses have dominated the process of understanding sustainability.

2.2 UNDERSTANDING THE CONCEPT OF SUSTAINABILITY

Despite several attempts, conceptualising sustainability has remained a difficult task (Mitlin 1992; Lamberton 2005). Like Pezzoli (1997, p.573) suggests, 'There are no boiler plate answers to a problem as complicated as the sustainability challenge'. The process of understanding sustainability has brought together various interest groups to brainstorm and suggest suitable responses to the issues underlying the concept. Most discussions have resulted in unsatisfactory responses mainly because the concept has meant 'a number of things to a variety of constituencies and, while there may be no objection to the sentiments expressed in respective definitions, they are far from holistic' (Johnston *et al.*, 2007, p.62). Large-scale differences in perceptions are responsible for the lack of a decisive set of principles governing sustainability. As a result, there is no shared understanding on sustainability (Becker, Jahn and Stiess 1999). The following section discusses some of these issues by producing an account of varied interpretations and conceptualisations of sustainability existing in the literature. In doing so, it maps a few broad, but important, principles underlying the much-contested concept of sustainability.

2.2.1 Popular dimensions and theoretical frameworks of sustainability

Due to inherent complexity, sustainability requires an integrated approach to understand the range of issues that are central to its operationalisation (Kastenhofer and Rammel 2005; Kidd and Fischer 2007; Soderbaum 2007; Jabareen 2008). Under natural settings, these issues –

institutional, cultural, ethical, environmental, economic and social – ply in tandem thus further aggravating the underlying complexity (Clayton and Radcliffe 1996). Reid (1995, p.161) thus suggests that achieving sustainability requires 'negotiations [that address the issues of] resourcefulness, imagination, flexibility, generosity, responsibility and cooperation'.

To begin with, it is important to ascertain the fundamental field of study – natural or social science – with which sustainability as a concept has conventionally been associated. For most of the past decades, sustainability as a phenomenon has been dealt with from a pure natural science perspective with its prime focus on environmental degradation and related ecological problems (Mitlin 1992; Redclift 2005; Johnston *et al.* 2007). However, this view has recently been challenged by many global institutions, planners and activists. According to them, sustainability as a process has as much importance for the social science as for the natural sciences (Becker and Jahn 1999; Hales and Prescott-Allen 2002; Rios-Osorio, Lobato, and Del-Castillo 2005). The understanding of sustainability has differed significantly across environmental, socio-economic and institutional discourses. Such differences are not completely surprising as each discourse maintains its own limits, boundaries and plausible spheres of action. Yet, in the larger scheme of things, absence of a comprehensive understanding impedes the long-term operationalisation of sustainability, thereby turning the concept futile and 'primarily symbolic rhetoric' (Jabareen 2008, p.180).

The dilemma regarding the association of sustainability with natural or social sciences is further intensified by the role played by spatial-geographical scales in that the latter blur the boundaries between natural and social science issues (e.g. population, pollution, biodiversity losses). Sustainability is therefore, perceived differently across global, national, state and local levels and also between developed and developing countries (Mitlin 1992; Johnston *et al.* 2007). Owing to the dynamics of the concept, Becker, Jahn and Stiess (1999) recommend that an isolated approach to comprehend sustainability from a natural science or a social science perspective alone while ignoring the interplay of these discourses with the elements of scale could result in weak conceptualisation of the concept over long-term (Becker, Jahn, Stiess, and Wehling 1997; Becker, Jahn and Stiess 1999; Rios-Osorio, Lobato, and Del-Castillo 2005).

Furthermore, sustainability is considered a process that is constantly evolving. Its conceptualisation therefore,

> constantly change[s] with time, interpreters and their needs … the debate over the phenomenon is an ongoing, never-ending process, where the purpose of the journey is not to reach the destination – the purpose is the journey itself (Kallio, Nordberg, and Ahonen 2007, p.48).

The dynamic nature of the concept is also strongly suggested by Newman (2005) who believes that sustainability is best treated as 'an evolution' and a process that is prone to continuous changes and adaptation. Due to its complex nature however, while some policies may be socially and politically acceptable, the same may be constantly rejected on economic and ecological grounds or vice versa. The adoption of a synergistic approach thus becomes essential in determining solutions to the theoretical complexity underlying the concept. Redclift (1987, p.33), emphasises the significance of inter-linkages between various issues: 'Through a linkage, each discipline enriches the other because of their differences … Eventually, however, new emphases and approaches arise because of the enrichment'. Developing synergies and linkages between various aspects of sustainability is therefore, inevitable.

Further, Moffatt (1996) considers sustainability an amalgamation of moral and cultural issues with economic and environmental problems existing within the broader context of the contemporary society. He suggests thus that appropriate focus on each individual component, while not losing sight of the 'big picture' is essential to generate sustainability in our practices over both long and short-term. It therefore, becomes increasingly important to understand the prominent dimensions of sustainability which, in turn, provide a spectrum of perspectives to sustainability – from social to economic, political to psychological and environmental to technological (Pawlowski 2008).

To this extent, three broad dimensions of sustainability exist – analytical, normative and strategic (Becker, Jahn and Stiess 1999). While the *analytical* dimension connects various aspects of social development along with their productivity and limitations to the ecological and biophysical environment, a *normative* approach deals more strongly within the social environment in terms of justice, equity (inter- as well as intragenerational) and gender equality (Becker, Jahn and Stiess 1999; Jabareen 2008). The third dimension – *strategic* – is the more political one, which connects

sustainability to effective governance from global to national to regional to local levels. This last dimension also reinforces public participation as one of the most important criteria for achieving sustainability (Pezzoli 1997; Becker 2004; Kidd and Fischer 2007).

Another set of sustainability dimensions is produced by Beatley and Manning (1997). According to them, understanding sustainability requires dealing with three main issues: scales of activity, sectors of application, and spheres of influence. As can be observed, both the above mentioned sets of dimensions of sustainability focus on governance, economy, society, and the environment, thereby further supporting the importance of multidisciplinary and synergistic approaches in operationalising sustainability.

In addition, from a political ecology standpoint, Choucri (1999) suggests four primary dimensions of sustainability, namely: ecological configuration, economic activity, political behaviour and governance, and institutional performance. On a similar note, Pezzoli (1997) argues that sustainability may be conceptually understood by examining the interplay between four main spheres of concern: environmental context, legal and institutional terrain, culture and civil society, and economy and technology. Political ecology, as a contemporary ideology, thus focuses on the cross-linkages between environmental changes; social, cultural and economic impacts; and institutional processes. In doing so, it ensures a holistic, co-evolutionary and a mutually interactive understanding of sustainability.

Another understanding of sustainability is offered by Becker (1999). Based on the concept of 'societal relationships to nature', Becker (1999, p.285) argues that sustainability acknowledges that:

> we are confronted neither with pure 'social facts' nor with mere 'natural objects', but with socially constructed forms of mediation between society and nature. It asserts that society and nature are interrelated yet heterogeneous entities within a structure of mediation which is historically shaped.

Finally, different combinations of these understandings are applied concurrently to create frameworks or models of sustainability. Each model visualises sustainability as a product of interrelationships between several dimensions – environmental, social, political, cultural, moral and

economic (Keiner 2004). Some models argue that these dimensions are arranged in a hierarchical manner where society is the fundamental element – in other words, the foundation – upon which rests the ecology and the environment (figure 2.1 (a)). As a result, society and the environment together provide conditions suitable for economic development (Sachs 1999; Boron and Murray 2004). In a distinct hierarchical model that works along a normative perspective to sustainability, environmental processes and their maintenance mechanisms are essential life-supporting elements on the planet (figure 2.1 (b)). This model suggests that nature and its resources are inevitable in the evolution of society which, in turn, guides economic activities (Becker *et al.* 1997; Gowdy 1999; Giddings, Hopwood and O'Brien 2002).

Figure 2.1   Hierarchical models of sustainability
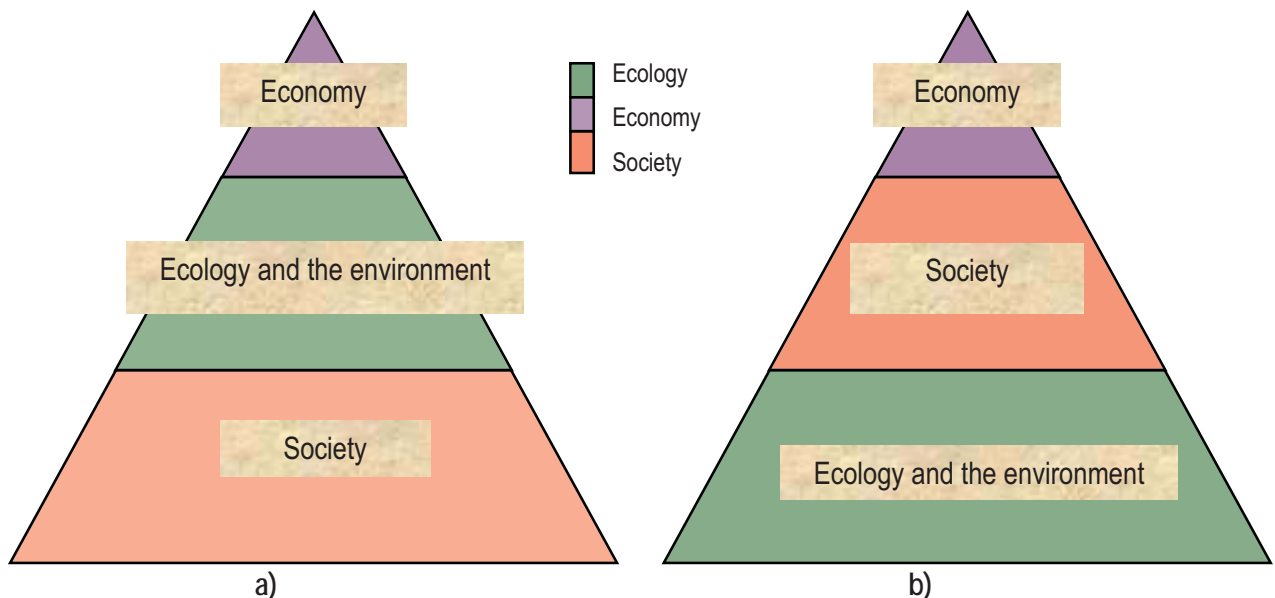
a) Model 1: Society-Ecology-Economy; Source: (Boron and Murray 2004)
b) Model 2: Ecology-Society-Economy;
Source: (Gowdy 1999; Giddings, Hopwood and O'Brien 2002)

Although the exact role of society vis-à-vis nature in operationalising sustainability is often debated, the models presented above nevertheless hold similar views with regard to the role of economy. Of the three primary dimensions of sustainability, both models prioritise economy as the least significant, thereby suggesting that economic development is considered secondary to the maintenance of social and natural processes.

Apart from these conventional arrangements, a different approach to model sustainability is proposed by Moffatt (1996), according to whom, a right proportion of theoretical and practical focus on each individual component of sustainability is essential. He considers sustainable development a tetrahedron (figure 2.2) with ecological, ethical, economic and socio-institutional aspects of development at each corner. 'There is no implied hierarchy … each index is equally important. Any point inside this tetrahedron represents the various degrees of strength associated with the four dimensions' (Moffatt 1996, p.34).

Figure 2.2   Tetrahedron model of sustainability
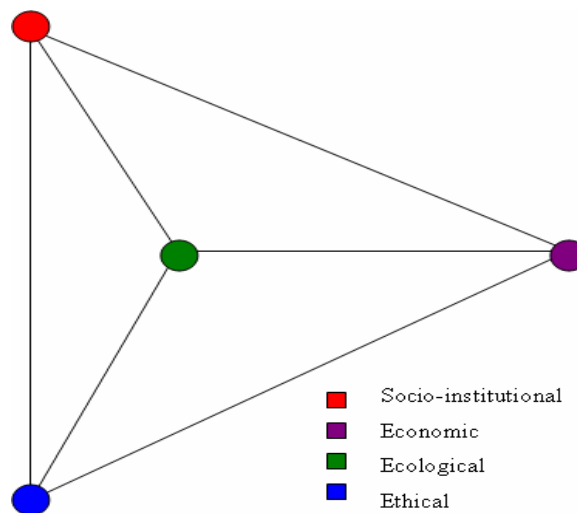
Source: (Moffatt 1996)

On a similar note, Keiner (2004) presents a prism model (figure 2.3) that focuses on four distinct dimensions: Nature (environment and ecology); Institution (political and social organisation); Mind (social knowledge and worldview) and Artefact (economy and man-made assets). Such non-hierarchical four dimensional models are sensitive to the multidisciplinarity and the complexity associated with the concept of sustainability. By focusing on the inter-relation between social, economic, institutional and environmental aspects of sustainability, these models confirm that improvements are possible simultaneously across all four dimensions, provided a constant level of mutual interaction is maintained between several minute elements of each of these dimensions (Keiner 2004).

Figure 2.3 Prism model of sustainability
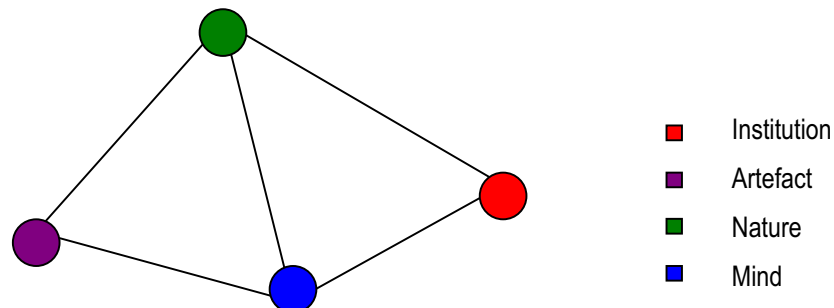
Source: (Keiner 2004)

Moffatt's (1996) and Keiner's (2004) sustainability models may further be altered to produce an improved framework of sustainability. By generating a cyclic network (figure 2.4) based on the four primary sustainability dimensions, the new model better supports the evolutionary nature of the concept (Khan 1995; Reboratti 1999). The modified framework thus establishes sustainability as a process of continuous change where any disturbance or development in one sector is both the cause and the effect of disorder or progress in the other. The cyclic model presented below underpins the balanced relationship that is required between economic, environmental, institutional and social dimensions to operationalise long-term sustainability (Lamberton 2005).

The process of understanding sustainability using various models and frameworks, while being important, remains incomplete without acknowledging the ideas of '*partial*' v/s '*whole*' and '*weak*' v/s '*strong*' sustainability. The notion of partial and whole sustainability has been developed by Sachs (1999) who argues that several partial sustainabilities exist, for instance social, cultural, ecological, environmental, territorial, economic, and political (national as well as international). These partial sustainabilities, when combined in justified proportions, result in the establishment of whole sustainability. It is acknowledged that in realistic terms, achieving whole sustainability is a difficult task, thereby necessitating the need for 'justified' proportions or what Sachs refers to as 'trade-offs' (Sachs 1999). Given, the complex and evolutionary nature of sustainability, the issue of 'trade-offs' becomes particularly crucial in its operationalisation.

Figure 2.4 Proposed Cyclic Model of Sustainability
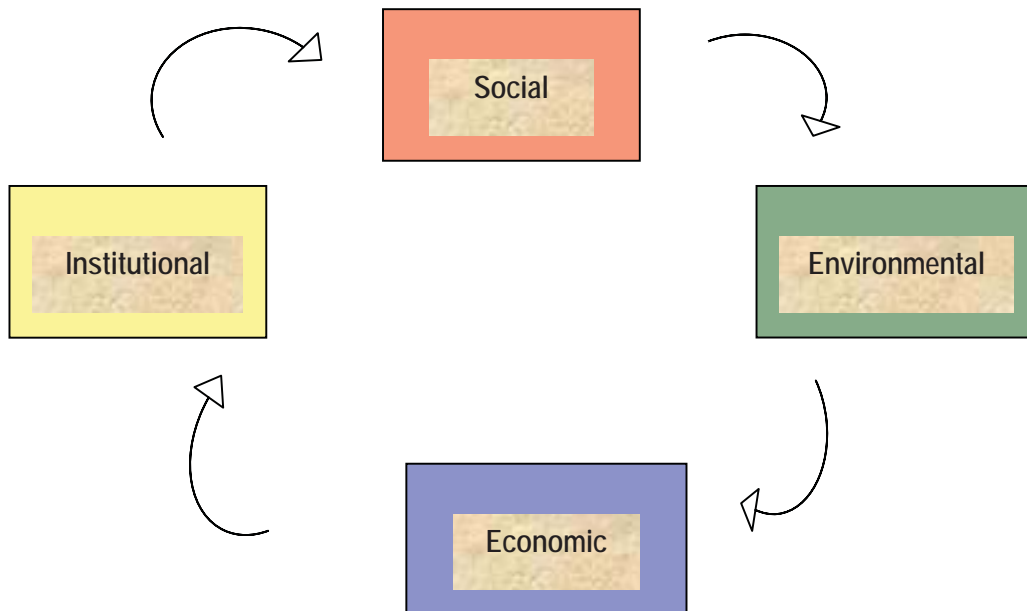
In contrast to the idea of whole sustainability, weak and strong – also referred to as *broad* and *narrow* respectively – sustainability largely deal with the ecological dimension of sustainability (Reid 1995). The classification into weak and strong sustainability questions the possibility of substituting natural resources by man-made technology and knowledge. In doing so, the environment along with its resources remains the area of primary focus while concerns related to socio-institutional behaviour and economic priorities are largely ignored. Given that this research aims to operationalise sustainability in its entirety and that the idea of weak and strong sustainability is rather narrow and limited in scope, the latter has not been considered here.

2.2.2   Existing definitions and interpretations of sustainability

As mentioned previously in the chapter, sustainability is defined and understood in diverse ways. Often, these conceptualisations are contradictory in meaning and application (Jabareen 2008). The complex and evolving nature of sustainability further renders it difficult to establish a universally applicable understanding. Besides, achieving a uniform conceptualisation is not always desirable,

for the issue is highly complex (across both time and space) and multifaceted in nature (Grosskurth and Rotmans 2005). Soderbaum (2007, p.221) thus argues that 'part of the problem in sustainability issues is … the naïve idea that only one paradigm can represent the 'truth' in science, at any one point in time'. In fact, sustainability discussions provide various opportunities to encourage constructive dialogues between different schools of thought to develop varied useful interpretations (Newman 2005).

To begin with, the most widely accepted and commonly referred to definition of sustainable development is the one identified by the Brundtland report (Grosskurth and Rotmans 2005). It defines sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED 1987, p.8). As argued by many researchers, this definition is confusing in more than one way. While it is difficult to segregate needs from wants, it is even more complex to decide what is implied by development realistically and what is included and excluded from the development that the Report in particular, refers to (Reid 1995; Eichler 1999; Grosskurth and Rotmans 2005). Hempel (1999, p. 46) explains this ambiguity quite clearly:

> [Sustainable development is] an oxymoron. Modern political economy in any form is unsustainable, precisely because it involves 'development' – that is, more and more people consuming more and more goods … such an economy is based on stolen goods, deferred payments and hidden costs.

Recent discourse on sustainability science provides an unconventional platform to deal with issues like uninhibited consumption, lack of social and environmental ethical considerations and generally anthropocentric lifestyles. Scholars belonging to this camp interpret sustainability as a process that combines knowledge from natural and social systems 'in order to evaluate, mitigate, and minimize the consequences, regionally and worldwide, of human impacts on planetary systems and on societies across the globe and into the future' (Reitan 2005, p.77).

Furthermore, within the larger scope of natural sciences, the interpretation of sustainability provided by the U.S. National Commission on the Environment is perhaps the most informative as it adequately addresses a multitude of related concerns. The Commission defines sustainability as:

> a strategy for improving the quality of life while preserving the environmental potential for the future, of living off interest rather

> than consuming natural capital. [Sustainability] mandates that the present generation must not narrow the choices of future generations but must strive to expand them by passing on an environment and an accumulation of resources that will allow its children to live at least as well as, and preferably better than, people today (Beatley and Manning 1997, p.4).

This definition promotes what Keiner (2004) considers the *'Principle of Good Heritage'*. The latter suggests that our development patterns and current lifestyles should provide future generations with both improved quality as well as quantity of natural and social resources. The Good Heritage principle is essentially an ethical tool that ensures that the wellbeing of future generations 'will not just be *not compromised* [emphasis in original], but – expressed in positive terms – will be larger' (Keiner 2004, p.391).

Furthermore, according to social sciences, sustainability is a product of 'strategies and socially negotiated goals which refer to the interactions between societies and their natural environment, including the mutual interference of different societal processes among themselves and with ecological processes' (Becker, Jahn and Stiess 1999, p.7). Within the social sciences, the concept of whole sustainability is particularly relevant. Sustainability is considered a ''whole process' that is contingent on the robustness of its constituent parts' (Choucri 1999, p.147). For successful operationalisation therefore, it is essential that each constituent element is, on an individual basis, sustainable. Mebratu (1998) further elaborates the whole sustainability equation by suggesting that the final outcome is not simply dependent upon the sustainability of individual components but is also affected by the interaction between the parts and the whole.

Further, Robinson and Tinker (1995) suggest three fundamental partial constituents that are at the core of the sustainability debate: the ecological system; the economic system; and the human social system. All three of these are:

> interconnected, overlapping, self organizing and co-equal to each other, in that each has an equivalent primacy and importance … These systems share many common characteristics, and all lead to an imperative … addressing any one of the three imperatives in isolation, without also satisfying the other two, virtually guarantees failure, first because each is independently crucial, second because the satisfaction of each is urgently necessary to remove elements of gross non-sustainability from human society, and

third because the three imperatives ... are intimately interconnected (Robinson and Tinker 1995, p.19).

While the above argument is rational and responsive to the need for multidisciplinarity for a complex issue like sustainability, it fails to acknowledge the importance of ethics and moral behaviour in achieving socio-economic equity, inter- and intragenerational equity, gender equality and social justice.

It in this context that Orr's (2002) suggestion of *robust spirituality* is informative as it suggests the role of spiritual nature and ethical awareness among humans in curbing environmental degradation. He argues that sustainability should be identified with feelings like mercy, forgiveness, empathy, anti-terrorism, justice, respect for needs of others, sense of kinship, patriotism, and love for place where we live. The latter will positively exploit human emotional quotient and bring about changes in contemporary patterns of behaviour, thereby contributing to holistic wellbeing of the planet. Inclusion of ethics in the process of conceptualising sustainability has been considered vital by several other researchers (Reitan 2005; Johnston *et al.* 2007; Hull 2008). Beatley and Manning (1997) express a similar opinion where they recommend that good ethics and high value systems may result in orienting human mindsets towards sustainable practices.

Another interpretation of sustainability is proposed by Acselrad (1999) who considers sustainability a *teleological causality*. The latter acknowledges those practices sustainable which encourage sustainability in the future. While the argument may be theoretically appropriate, it is prone to strong disagreement given the evolutionary nature of social and environmental issues. As needs and consumption practices of regions, peoples and societies change with time (Redclift 1999b), comprehending sustainability as a teleological causality remains misleading from a practical standpoint.

Furthermore, a recent concept of *resource sustainability* has surfaced within the umbrella of ecological sustainability (Paehlke 1999). The concept interprets sustainability of any social, economic, institutional or environmental activity by examining the resources used in the process. More specifically, the concept deals with the use of natural resources: renewable and non-

renewable. In most cases, resource sustainability renders even carefully guided activities unsustainable. A case in point is the car industry. Cars may be economically sustainable but are environmentally highly unsustainable as they depend on non-renewable resources. Despite technological innovations and restricted usage, a resource sustainability point of view would always consider cars an unsustainable option as the driving force behind cars is a fossil fuel, which in itself is a non-renewable resource and therefore, unsustainable.

2.2.3   Fundamental principles and constituent elements of sustainability

Some scholars believe that discussions on economy and the environment form the central ideas of the sustainability debate and that 'wider social issues often fall off the [sustainability] agenda' (Giddings, Hopwood and O'Brien 2002, p.190). As a strategy to address the lack of social focus in the conceptualisation of sustainability, Boron and Murray (2004, p.68) use the Brundtland definition as a basis to suggest two main constituents of sustainability – meeting needs of all (the role of development), and creating a system such that these needs are met on a continual basis for present and future generations (the role of sustainability).

Giddings, Hopwood and O'Brien (2002) further support the above arguments by recommending three similar principles which exist at the core of the sustainability concept: futurity (respect for the needs of future generations); equity (of class, gender and race); and the importance of biodiversity. Palmer, Cooper and van der Vorst (1997) also suggest essentially similar principles or constituents of sustainability: futurity, equity, public participation, and the environment. The emphasis on futurity and equity by several researchers thus reinforces the significance of Brundtland's idea of inter- and intragenerational equity in conceptualising sustainability. The latter, in turn, justifies the inclusion of the concept of eco-justice (referred to by many as part of the larger 'environmental ethics' discourse) within the sustainability framework (Johnston *et al.* 2007; Jabareen 2008). Quite rightly thus, Palmer, Cooper and van der Vorst (1997, p.91) argue, ''eco-justice' welds together both futurity and equity.'

Furthermore, Khan (1995) recommends four conceptually different building blocks which lay the foundation for sustainability: conceptualisation/ definitional issues; institutional issues; cultural

issues and issues of international relations. Conceptual issues deal with social, ecological and economic sustainabilities and reinstate that it is essential to achieve all three simultaneously. Mebratu's (1998) 'academic' version of sustainability further supports the presence of conceptual issues by highlighting the interaction between environmental economics (focus on market economy), ecological economics (focus on deep ecology) and social ecology (focus on societal re-organisation and egalitarianism).

Institutional issues, on the other hand, deal with establishing frameworks for action at the institutional level by including both top-down and bottom-up approaches to boost sustainability operationalisation (Goll and Thio 2008). By including cultural issues, Khan (1995) highlights the ever-expanding culture of over-consumption and waste generation. He thus argues that 'time may have come for all of us to move away from a 'culture of maxima' to a culture of moderation' (Khan 1995, p.67). Finally, an international body of behavioural understanding between and within countries is considered essential to control and monitor the use of common resources – mostly natural – between various regions of the world. This last principle thus highlights the political nuances that exist intrinsic to the concept of sustainability. Khan's set of sustainability principles not only broadens the conceptual scope of sustainability but also provides a wider platform to acknowledge the intertwined and multidimensional nature of sustainability.

Speaking of the multidimensional nature of sustainability, Basiago (1995) presents a succinct account of sustainability from a multidisciplinary point of view. According to him, different groups have different notions of sustainability, thereby making consensus difficult.

> In biology, sustainability has come to be associated with the protection of biodiversity. In economics, sustainability is advanced by those who favor accounting for natural processes. In sociology, sustainability involves the defense of environmental justice. In planning, sustainability is the process of urban revitalization. In environmental ethics, sustainability means alternatively, the preservation, conservation or sustainable use of natural resources (Basiago 1995, p.118).

Basiago (1995) thus recommends four main principles of sustainability that adequately address its multifaceted nature: futurity, equity, global environmentalism and biodiversity. By suggesting these

principles, he encourages a pragmatic understanding of the concept of sustainability; one that 'maximize[s] the vitality of social and environmental systems' (p.119) (see table 2.2 below).

Table 2.2   Fundamental constituent elements of sustainability

- Good governance
- Ethics and justice
- Public participation
- Urban revitalisation
- Biodiversity and the environment
- Equity (across class, gender and race)
- Futurity (respect for the needs of future generations)
- Cultural issues (like over-consumption, waste generating practices)
- Community involvement and empowerment of socio-economically weaker sections

Furthermore, Martens (2006) suggests four main characteristics of sustainability: a) its *intergenerational approach* and the resulting time frame of approximately 25 to 50 years to bring about substantive changes (Mog 2004); b) level of *scale* and the resulting geographic incompatibility of priorities and conceptualisations across global, national, regional and local levels (Hull 2008); c) presence of *multiple domains*, of which three are considered fundamental – the social, the economic and the ecological and the resulting interaction between them; and finally d) the possibility of *multiple interpretations* and the underlying ambiguity, complexity, uncertainty and subjectivity (Mog 2004). In light of these characteristics, Martens (2006, p.38) confirms that sustainability is, in fundamental terms, a challenging concept as it 'encompass[es] different magnitudes of scale (of time, space and function), multiple balances (dynamics), multiple actors (interests) and multiple failures (systemic faults)' (see table 2.3 below).

Finally, sustainability, as mentioned previously, calls for an integrated approach to address the issues raised above. Large-scale actor participation and community involvement in decision making is considered an inevitable tool to operationalise sustainability (Kidd and Fischer 2007; Goll and Thio 2008). As a consequence, public participation is acknowledged as an integral component

of the sustainability debate (Becker 2004; Soderbaum 2007). Increasing focus on public engagement and community empowerment is therefore, gradually emerging as a key policy decision across national, regional and local levels (Palmer, Cooper and van der Vorst 1997; Pezzoli 1997; Kastenhofer and Rammel 2005; Kidd and Fischer 2007).

Table 2.3 Principle characteristics of sustainability

- Subjective
- Intergenerational
- Multidisciplinary
- Ambiguous and uncertain
- Dynamic and evolutionary
- Multiple actors and interests
- Highly complex (temporally and spatially)
- Varied scales (global, national, regional, local)
- Contradictory interpretations and thus, difficult to reach consensus

In conclusion, none of the conceptualisations of sustainability presented above is complete. Every single notion draws around one or more of the many dimensions of sustainability – social, economic, environmental, ethical, institutional, technological and cultural. As a result, in isolation, these interpretations are ineffective in terms of providing an in-depth understanding of the concept. Nevertheless, the discussion above has highlighted important principles and characteristics of sustainability that may guide the process of its operationalisation effectively across different socio-geographical settings.

2.3 SUSTAINABILITY ACROSS THE NORTH-SOUTH DIVIDE

The North-South conundrum, also commonly known as the 'geo-political' debate (Rios-Osorio, Lobato, and Del-Castillo 2005) has long been an important issue of concern in discussions regarding sustainability and development (Pawlowski 2008). The earliest official record of the divide between the developing and developed countries is the establishment of an Independent Commission on International Development Issues (ICIDI). The commission, under the leadership of

Willy Brandt, was responsible for documenting its report, *North-South: A program for survival*. Popularly known as the Brandt report, it steered the debate on the state of disparity between the developed and the developing regions of the world (ICIDI 1980). The debate has continued ever since, thereby permanently establishing the North-South divide. The division is not true geographically; rather it is 'synonymous with the 'rich' and 'poor', 'developed' and 'developing' parts of the world' (ICIDI 1980, p.31).

The primary idea behind the Brandt report was that if humans were to prosper for coming decades, it was important to reorganise the relations and patterns of behaviour between different regions of the world (ICIDI 1980). While the report reinstated the mutuality of benefits that both North and South would accrue by developing this world order, it also stressed that any one part of the world could not afford to sit idly waiting for the other to act and deliver. It thus proposed that the developed and developing countries needed to cooperate on several fronts – for example, generation of technologies, provision of labour and materials, and allocation of funds – if the anticipated risks and threats to humans and the environment were to be avoided (ICIDI 1980).

Despite its overwhelming encouragement to the South, the Brandt commission failed to have the required impact on the developed world (Reid 1995). The governments of the North felt that they should not be blamed for the lack of development in the South. Moreover, the developed world strongly believed that it was not necessary for it to support the South in order to foster its own development. According to Reid (1995 p.50), the commission's

> arguments for a new economic relationship based on a mutuality
> of interest – that the North's exports to the South would increase
> as the South became more prosperous … – made little impact in
> the North … [which] was benefiting from the flow of interest
> repayments and low commodity prices.

As different parts of the world have maintained varied cultures, lifestyles and historical backgrounds, it has become increasingly difficult to develop a common world order – one that encourages sustainability on a long-term basis. The foundational differences between developing and developed countries provided by the Brandt report highlighted an early possibility of how these disparities might come into play in the process of interpreting sustainability across several generations.

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With regard to the North-South divide, sustainability entails three main issues of concern: poverty (in the South), environmental degradation (in both the North and the South), and affluence and resulting over-consumption (in the North). A range of scholarships from natural and social sciences suggest that all three issues are inextricably interrelated and result in a world order that is clearly unsustainable (WCED 1987; Reid 1995; Moffatt 1996; Rios-Osorio, Lobato, and Del-Castillo 2005). In fact, these issues are components of a vicious cycle where poverty in some parts of the world is due to unethical over-consumption and affluence in the others, both thus significantly contributing to overall environmental deterioration of the planet (Mebratu 1998; Raskin 2000).

While the capacity of the developing world to protect nature degradation and preserve environmental quality is often restricted by the absence of technological and economic resources, population growth, and overwhelming poverty, countries in the North 'with a high standard of living irreversibly change their own natural systems, while potentially imposing excessive pressure on the global environment' (Hales and Prescott-Allen 2002, p.47). In light of these observations, various arguments made in the literature calling for a concerted approach to sustainability are suitably justified. According to Johnston *et al.* (2007, p.65):

> Efforts which focus on lowering human environmental impact will
> inevitably need to attend to population distribution, resource
> consumption patters and the distribution of affluence and privilege
> as key determinants of the ability of human societies as a whole
> to remain within the bounds of the 'funnel' of sustainability.

Our Common Future also makes a similar proposition. To develop a comprehensive strategy that addresses Northern and Southern sustainability concerns equitably, the relationship between the environment and development needs to be fully acknowledged and exploited (WCED, 1987). The Brundtland report thus argues in favour of an inexorable link existing between development and the environment and that the former may not occur in the absence of a high-quality environment and vice versa.

Despite several attempts, efforts to preserve the environment and encourage development have largely reflected North's ideas and suggestions, thereby ignoring Southern demands. The developed countries have spearheaded the process of setting up research agendas and as expected, such discussions have been of trivial value and help to the pressing needs of the South

(Escobar 1995; Reid 1995; Sharma 2005). Escobar's (quoted by Rios-Osorio, Lobato, and Del-Castillo 2005, pp.512-3) opinion rightly explains the underlying dilemma:

> It is still assumed that the benevolent (white) hand of the West will save the Earth; it is up to the fathers of the World Bank, mediated by Gro Harlem Brundtland, the matriarch scientist, and a few cosmopolitan Third Worlders who made it to the World Commission, to reconcile 'human kind' with 'nature'. The Western scientist continues to speak for the Earth. God forbid that a Peruvian peasant, an African nomad, or a rubber tapper of the Amazons should have something to say in this regard.

Recently, however, voices from the South have been rising against the views of the developed world. To achieve sustainability, developing nations have been rigorously fighting for a more appropriate treatment to their demand for 'no sustainability without development' (Jabareen 2008, p.189). Reid (1995) further asserts that unsustainable development policies leading to socio-economic mismanagement across the world is responsible in a big way for contributing to widespread 'survival insecurity' within several developing countries.

Although there is no doubt that the initial arrangement of North and South as the 'centre' and 'periphery' has successfully transformed into a more logical representation of powers and resource distribution, drastic differences across economic, social and environmental fronts continue to exist between the two regions. These differences, Reid (1995, p.121) argues, further intensify due to the principle of "trickle down effect' … [where] wealth only trickles down to the poor when it first cascades on the rich. Under existing arrangements we can only meet the needs of the poor by increasing the standard of living of all'.

The literature thus suggests that in order to achieve intergenerational equity, intragenerational equity and justice is an indispensable requirement (Clayton and Radcliffe 1996; Elliott 1999; Jabareen 2008). In recent times it has been widely acknowledged that the standards of living in the developed regions have constantly risen at the cost of widespread deprivation in the South (Sachs 1993; Mebratu 1998). Therefore, there are growing demands that the prevailing inequity be regulated soon. With regard to efforts required to bridge the gap between the two worlds, while the developed and developing regions are equally responsible, the share of the North, in relative terms, is larger (Pawlowski 2008). Besides cutting down its own consumption patterns and making

moral lifestyle changes, '[the North] must … [also] reduce imported sustainability – [its] reliance on the carrying capacity … appropriated from the South' (Reid 1995, p.123).

As a strategy to operationalise sustainability, it therefore, becomes essential to develop a system that transfers resources across regions, not as aid but with an understanding that to create a sustainable world over long-term, equality in all dimensions of sustainability across all scales is imperative (Moffatt 1996; Raskin 2000). Despite this understanding, the literature nevertheless fails to provide a realistic solution with regard to attempts that may be undertaken such that both North and South achieve sustainability simultaneously. This research highlights two possible scenarios to deal with the dilemma of operationalising sustainability across the North-South divide:

1. Developed and developing countries attempt to achieve sustainability independently but simultaneously. While the North reduces its consumption and contains itself to less affluent lifestyles, the South controls its population, advances economic development to meet basic survival needs and develops environmental awareness among its population. These trends continue in both parts of the world until a visible positive outcome – e.g. improved quality of life and the environment – is experienced globally (Pawlowski 2008); or

2. The North and the South work in tandem across multiple domains to achieve the overarching objective of long-term sustainability by cooperation, mutual respect and solidarity (ICIDI 1980; Reid 1995; Hull 2008).

On closer examination, both scenarios suggest a similar final outcome – increased moral responsibilities towards the environment, fellow human beings and future generations. Both conditions however, also suffer from the same old dilemma of the potential influence of one region over another's behaviour (Pawlowski 2008). For instance, it may further exacerbate the existing global imbalance if the South emulates a development pattern comparable to the North or if the latter is forced to reach a state in the future that is similar to the South's existing condition (Martens 2006).

Given these circumstances, it is essential that each region provides help and support to the other while also supporting itself. A combination of situations one and two above may therefore, be considered a plausible suggestion to resolve the conditions of unsustainability across the North-

South divide. The most realistic approach may therefore, neither be a partnership nor a conventional aid assistance program but a long-term mutual understanding that each region at the local, national or international level is responsible not only for its own sustainability but also for the sustainability of others. The discussion below provides an example to illustrate how this theoretical knowledge may be translated into action. The following study suggests the role that needs to be played by the North and the South individually to achieve sustainability in totality.

2.3.1   A program of North-South cooperation between the Netherlands and Bolivia

The program is a cooperative arrangement between the Netherlands and Bolivia, the Northern rich and developed country and its Southern poor and developing counterpart. The primary aim has been to develop research capacity in social sciences for development in Bolivia (Velho, de Souza Paula and Vilar 2004). The most striking feature of the whole program has been the unconventional policy adopted by the Dutch to extend development cooperation to Bolivia. The Dutch-Bolivian project has largely followed the 'capacity building model' discussed in Appendix 2(a). According to this model, resources – in the form of technology, financial aid and other human capital – have been provided to the Latin American nation without any set mandates, policies and programs by the Dutch. Further, Bolivia has been given complete freedom and liberty in designing and implementing the entire capacity building process according to its own needs, priorities and aspirations.

The Dutch government limited its role as a funding agency to support research activities to enhance Bolivia's social development. The agenda was negotiated and planned by local Bolivian stakeholders. The initiative to conceptualise the research process and ensure its smooth implementation was therefore, the sole responsibility of Bolivia's national and local governments (Velho, de Souza Paula and Vilar 2004). The project encouraged research to ensure its relevance to knowledge building and continued utilisation within the local society. This, in turn, highlighted two positive outcomes with regard to Bolivia's long-term sustainability. One, it led to aggressive social interaction and participation, and two, it established a systemic process by which knowledge generated through the research was not just 'delivered' to the society but also 'utilised' and 'absorbed'. The idea of knowledge utilisation thus brought together actors from varied

backgrounds, thereby providing a diversified interactive platform for knowledge and experience sharing and learning. The whole cooperation effort by the Dutch therefore, contributed to long-term sustainability in Bolivia.

Despite a successful exercise in Bolivia, the literature argues that it may not be feasible to adopt such models elsewhere in the South and expect the same degree of success (Velho, de Souza Paula and Vilar 2004). The failure of a similar project in Zambia – mainly due to lack of local interest – underpins the above argument. Since a majority of the capacity building exercise, from taking an initiative and following through it rigorously, relies extensively on the capabilities and ambitions of the local public and the government, the potential of the capacity building process may be limited and therefore, contextual adaptations may be inevitable. Besides, the cooperation effort is still in nascent stages and hence, there is a dearth of literature available to suggest any mismanagement or mishandling of resources that could have possibly occurred at the Bolivian end.

Nevertheless, the Dutch-Bolivian project provides a practical model for other developed and developing regions in the world. It highlights the fact that for realistic sustainability efforts in the South, the North needs to loosen up its policies, be more flexible and distribute powers to the South, thereby building the latter's capacity to achieve long-term self-sufficiency (ICIDI 1980; Velho, de Souza Paula and Vilar 2004; Rios-Osorio, Lobato, and Del-Castillo 2005; Pawlowski 2008). The capacity building process discussed above thus strengthens the concept of 'mutuality of interests', mentioned earlier, as inevitable in the process of achieving overall global sustainability. With the end of this section, the chapter has highlighted several issues that are central to understanding and conceptualising sustainability from a multifaceted perspective. The final section now draws together arguments made above to suggest the concept of 'holistic' sustainability which this research seeks to operationalise across theory and practice.

2.4 TOWARDS 'HOLISTIC SUSTAINABILITY'

Two important points may be made at this stage: one, so far, there is no shared and common understanding of what sustainability really is and two, the responsibility to achieve sustainability

does not lie with any particular organisation, person or entity. In other words, it may be appropriate to suggest that reaching a state of sustainability requires mutual agreement among various nations and people across geopolitical and socio-economic divides. With regard to determining the theoretical character of sustainability and its successful institutionalisation, Acselrad (1999) argues that two issues are of particular relevance. He proposes that while one relates to the practical aspects of existence like efficiency and scale, the other is associated with cultural practices that include principles of ethics, equity, justice and self-sufficiency. The discussion below firstly presents an understanding of *scale* and *ethics* – two contested but critical issues in operationalising sustainability. Secondly, it highlights some important hindrances in the process of achieving sustainability.

While *scale* has been established as an essential constituent of the discourse called political geography, a perfect conceptualisation of scale has remained a challenging task (Delaney and Leitner 1997; Howitt 1998, 2003). The literature suggests that scale *per se* could be described in varied forms: local, nation-state, world economy; or urban, regional, national, global and glocal; or political, cultural, social, economic, environmental, spatial; or institutional (Howitt 2003; Grosskurth and Rotmans 2005). The dilemma associated with understanding scale is best explained by Howitt (2003, p.151):

> scale is pre-eminently a matter of relation, and that approaches which seek to summarize this dimension with the gloss of labels such as 'global' or 'local' without engaging with what is actually encompassed in context by the term, will actually miss the substance of the term and the phenomenon it represents.

A general understanding that can be derived from the above argument is that contemplating the scale of any process or activity is incomplete without its reference to other geographical and socio-political contexts that define the overall scope of the activity. With regard to sustainability, three main scalar possibilities exist: local, national and global (WCED 1987; Beatley and Manning 1997; Elliott 1999; Reboratti 1999). The approach to sustainability was primarily global which only later accentuated the importance of local sustainability with the development of Local Agenda 21 at the Earth Summit (Selman 1998; Elliott 1999).

According to Reid (1995), a state of complete harmony exists when sustainability is attained at all global, national and local levels. Achieving any one at the cost of the other is contrary to the aim of long-term equitable sustainable development. He thus suggests:

> a state of global ecological sustainability in which global resources are conserved but inequitably distributed between nations … might resolve some aspects of the global crisis, but would not be consistent with the sustainable development of Brundtland's definition (Reid, 1995, p.106).

Global sustainability therefore, while being important for present and future wellbeing of humans and the environment, calls for uniform efforts at local, regional and national levels (Hull 2008).

From the perspective of this study however, it is not possible to simultaneously deal with local, national and global issues due to time and resource constraints. In fact, tracking global or inter-regional sustainability alone may not be feasible as the scope of activities will not be commensurate with the resources available for this study. At the same time, the research also ignores a local delimitation of the scale. A local perspective, while being a useful guide to progressive actions towards sustainability, limits the inter-linkages of the local area of study with the larger outside world. Such conservative scope of a local study would, in turn, impact the extent to which results may be generalised for future advancement in sustainability policymaking on a macro level.

In light of these observations, this research settles for two different scales – a state (from a developing country) and a nation-state (a highly developed region). The evaluation of progress made by these regions towards achieving sustainability will provide a two-fold advantage. One, the chosen regions are expected to have a fair degree of interaction between various aspects of a modern civilisation – socio-cultural, environmental, economic and institutional. This would help ascertain the heterogeneity and the complexity associated with the region's current progress in achieving sustainability. Two, the changes – direct or indirect – produced as a result of these interactions are expected to be both controllable as well as flexible to a reasonable extent. This may further help in addressing relevant issues including, *inter alia*, identifying possible hindrances to sustainability; nullifying the negative effects of resulting obstacles; and choosing actions to overcome these hindrances on a long-term basis. Evaluation of sustainability practices on a

smaller scale (a community-wide or a national but inter-state study) or a larger scale (inter-regional or cross-country studies) than present could thus either get too predictable or too complex (Newman 2006).

Besides scale, the concept of ethics is of paramount importance in the process of operationalising sustainability (WCED 1987; Reid 1995; Gleeson and Low 2003; Strong 2003; Reitan 2005; Hull 2008; Skowronski 2008). According to Moffatt (1996, p.20), ethical and political maturity is essential to ensure long-term sustainability. 'It is not the environment which needs management, but rather our own behaviour as individuals, as individuals within larger institutions, and as members of communities'. While individuals are expected to control population expansion and patterns of over consumption, their efforts would largely remain ineffective in the presence of policymakers and political authorities whose thoughts and actions are unethical and therefore, unsustainable (Moffatt 1996).

Recently, environmental justice has gained rapid popularity as a concept. It has successfully brought together issues of social justice and environmental responsibility to the larger sustainability discourse. As Gleeson and Low (2003, p.463) argue, 'Justice must be viewed as a dialectical concept continuously stimulating new political ideas and practices and, importantly, revealing new truths about the relations between human individuals, their societies and nature.' The demand for environmental justice through various grassroots movements has encouraged sustainability – both social as well as environmental – in human practices (Shiva 1991; Rangan 2000; Gleeson and Low 2003). Besides justice towards nature and its resources, environmental justice also embraces characteristics of self-help, community orientation and a sense of individual responsibility (Elliott 1999). The concept therefore, encourages a holistic vision of sustainability by propounding itself as a subset of moral, socio-cultural and environmental ethics.

Despite several attempts, the concepts of ethics and justice remain contested and full of ambiguity (Taylor 1986; Moffatt 1996; Strong 2000). Moffatt's (1996, p.43) intimidating question – 'what moral principles we can use to guide us in an ethical- and ecologically-sound and socially responsible way of making this planet sustainable' – unfolds the underlying ambiguity. Furthermore, the extent to which ethical dimensions of sustainability have been incorporated in policymaking at national

and international levels, and the resulting degree of success remains a debatable issue (Mebratu 1998). To this extent, Mebratu's (1998, p.516) opinion regarding the existing 'out-of-proportion' emphasis on the role of ethics is adequately justified:

> ethics is an important attribute of a given means to an end rather than the means to an end. That is why … the need of ethical change, without treating the core element, has a hollow ring.

In metaphorical terms, a hungry woman in a forest may not be expected to remain ethical by avoiding hunting down the last animal for her meal in order to preserve the natural biodiversity. Ethics and moral values will thus only prevail when other basic human necessities for survival are in place (Mebratu 1998). Acselrad (1999, p.55) too believes that a genuine focus on ethics while avoiding excessive reliance on the approach 'provides sustainability with a reinvigorated discourse on moral duties and obligations related to conditions of existence'. Ethics and sustainability therefore, ultimately complement each other, thereby proposing each individual and nation – rich or poor, weak or strong – to uphold ethics, morally and socially.

Besides the role of scale and ethics in enhancing an improved understanding of sustainability, the process of addressing potential obstacles is integral to successful long-term operationalisation of the concept. The complexity resulting due to the interplay between different dimensions and characteristics renders it difficult to prioritise these obstacles (Tainter 2006). Whether one issue leads to a multitude of other problems, if these issues are recent or have been prevailing for a long time, and whether the problems are scale- or context-specific – the intrinsic character of sustainability makes it challenging to arrive at any firm conclusion with regard to such dilemmas.

While development is a debatable concept on the whole, the biggest obstacle to sustainability is the type of development that prioritises economic growth over other equally important issues (Reid 1995; Jabareen 2008; Skowronski 2008). Continued interest in economic growth impedes successful operationalisation of sustainability for more than one reason. On the one hand, it adds to the already intensive economic and wealth disparity existing globally between the rich and the poor across different regions. On the other hand, it leads to a state of mutual disrespect that is highlighted by increased social ignorance, lack of community feelings and belongingness, and lack of concern for environmental degradation (Reid 1995; Jabareen 2008).

Besides the relentless focus on growth in economy, subjective views from regional and organisational authorities in interpreting sustainability further disrupt the latter's operationalisation (Reid 1995; Mebratu 1998; Rios-Osorio, Lobato, and Del-Castillo 2005). According to Mebratu (1998, p.518), 'strengthening the logical coherency within the concept [of sustainability] by overcoming the influence of institutional and group interest is a prerequisite for developing our understanding of the concept'. This argument thus firmly establishes the role of 'authentic political will' and effective governance in operationalising sustainability (Kidd and Fischer 2007; Goll and Thio 2008; Skowronski, 2008).

Considering these obstacles, various scholars have argued for a new sustainability paradigm (Reid 1995; Choucri 1999; Martens 2006) that encourages 'a rich quality of life, strong human ties, and a resonant connection to nature' (Speth 2003b, p.16). A new systems-based paradigm applicable across multiple domains and scales will therefore, provide a more rigorous theoretical and practical foundation to sustainability (Mog 2004). In other words, the literature calls for a co-evolutionary process to address major impediments to sustainability (Pezzoli 1997; Mebratu 1998; Kidd and Fischer 2007). This process, it is argued, needs a holistic perspective that – in the absence of a blueprint – may encourage long-term temporal and spatial redefinition using instruments of socio-cultural, political, economic and ecological change (Boron and Murray 2004). The idea of holistic sustainability is therefore, an important means of change as it encourages multidisciplinarity through a synergistic process of integrative and adaptive management across economic, social and environmental issues (Pezzoli 1997; Raskin 2000).

CONCLUSION

The primary aim of this chapter, as discussed in the introduction, was to track the understanding of sustainability from its origin through the many decades that have passed since then. The review of literature from diverse sources has confirmed that it is not easy to conceptualise sustainability from a single perspective – social, economic, political or environmental. On the contrary, sustainability and sustainable development continue to remain complex and ambiguous concepts. Nevertheless, the chapter has highlighted important issues related to understanding and conceptualising sustainability.

There is consensus – socially and institutionally – across the world that our current patterns of existence are unsustainable. Despite common knowledge that contemporary socio-economic and environmental practices call for priority reforms, there is a clear lack of responses that may help address the 'sustainability conundrum'. Besides, the chapter also reveals several existing dilemmas that are central to the process of understanding the real idea of sustainability. These issues, highlighted below, provide a comprehensive summary of the literature and its arguments regarding the concept of sustainability.

1. Each individual, community, province, nation and region is primarily responsible for undertaking its own process to achieve sustainability. Self-reliance and individual capacity-building are two key skills which need to be honed constantly for a successful transition to sustainability (Pezzoli 1997; Mog 2004; Pawlowski 2008);

2. Sustainability must be seen as a continuous process of social learning. All actors must get involved whose lives may be affected in even the most minimal ways. Empowerment of poor (urban and rural), women and uneducated is essential to encourage self-reliance (Mebratu 1998; Becker 2004; Grosskurth and Rotmans 2005; Kastenhofer and Rammel 2005);

3. It is crucial that sustainability be achieved by following fundamental human ethical and moral principles of integrity, selflessness, compassion and respect for the existence of other humans and ecological resources. This is particularly important to maintain sound inter- as well as intragenerational equity (Keiner 2004; Reitan 2005; Skowronski 2008);

4. Qualitative development needs to be preferred over quantitative growth. Efforts are required to propose a clear understanding of the differences between (healthy) development and (unhealthy) affluence (Reid 1995; Elliott 1999; Kastenhofer and Rammel 2005);

5. Appropriate use of technological advancements must be made to achieve high qualitative development, especially in the sectors of health, infrastructure, energy and environmental conservation. At the same time, technological limits need to be widely acknowledged. The latter will help in reducing excessive reliance on technology to fix human errors (Kallio, Nordberg, and Ahonen 2007; Hull 2008; Jabareen 2008; Pawlowski 2008);

6. For the countries of the North, it is important to strike wise trade-offs between over-consumption, economic expansion and affluent lifestyles. For those in the South however, a balance between economic development, population growth and environmental degradation needs to be achieved (Reid 1995; Rios-Osorio, Lobato, and Del-Castillo 2005);

7. With regard to North-South cooperation, it is easier to attain global sustainability when the North supports the South through an unconditional transfer of financial grants, resources and expertise. The former should minimise its participation in planning, agenda setting, and decision making for sustainability in the South. The North should thus focus on building capacities in the South while empowering the latter to carry out its activities independently and efficiently;

8. A strong political will is essential to ensure cooperation and mutual support between and within different regions in the developed and developing world. The process of deciding upon trade-offs while still maintaining strong integration between economic, social and ecological objectives requires extensive negotiation between various actors. This is impossible in the absence of effective governance. Therefore, the institutional dimension of sustainability needs to be further strengthened as it has the potential to favourably manipulate other aspects like economy, society and the environment (Goll and Thio 2008; Pawlowski 2008; Skowronski 2008);

9. Having said this, the basic tenet of sustainability remains intact: the society, economy and the environment must not be treated in any hierarchical model of arrangement but in a more integrated manner. A reckless decision on any one front may disrupt the entire process of sustainability operationalisation. Intelligent multidisciplinary theoretical decisions need to be made in order to obtain success pragmatically (Kastenhofer and Rammel 2005; Redclift 2005; Rios-Osorio, Lobato, and Del-Castillo 2005; Jabareen 2008; Pawlowski 2008); and

10. Finally, sustainability has been theoretically established to a reasonable degree. It is the transformation of this theory into practical application that is now required. The areas of immediate focus therefore, are related to implementation (devising policies from theory) and evaluation (improvisation through feedback). Evaluation and feedback generation are particularly significant issues, considering that sustainability is a process which may never

have a final destination, rather multiple stages which would require continuous changes (Becker 2004; Newman 2005; Martens 2006).

Finally, the following argument by Moffatt (1996, p.6) provides an adequate concluding observation for the chapter:

> It is accepted that different societies will no doubt decide to develop along their own paths – all of which are sustainable. The utopian vision is not, therefore, a blueprint for all societies to follow slavishly but a general guide indicating some of the problems that will have to be overcome if we are individually and collectively to move towards development which is sustainable.

Developing a sustainability blueprint is theoretically impossible as well as practically unrealistic, given the presence of diverse political, economic, socio-cultural and environmental settings in different parts of the world (Raskin 2000). Instead, the ten issues raised above provide a set of principles that may be followed across all socio-geographical and disciplinary divides for a long-term efficient transition to sustainability. When implemented concurrently, these issues will expedite the process of operationalising holistic sustainability. The next chapter draws together these fundamental principles of sustainability and presents two examples from the literature that have been able to operationalise long-term sustainability through varied successful strategies.

CHAPTER THREE

LEARNING FROM EXAMPLES:
SUSTAINABILITY OPERATIONALISATION
IN BRAZIL AND THE USA

INTRODUCTION

The development of a universally applicable blueprint to guide sustainability planning and operationalisation is not only theoretically impossible but also practically unrealistic. Under such circumstances, in order to gain a deeper insight into how sustainability may be planned for, it is useful to examine cases that the literature considers 'exemplary' with regard to long-term sustainability operationalisation. The underlying idea therefore, is to learn from the achievements – and failures – of these examples in planning for sustainability and thereby, establish causal mechanisms, if possible, to understand how sustainability may be operationalised across different settings.

The chapter presents examples from two countries – Brazil (Curitiba) and the United States (Oregon). Due to the presence of different environmental, political, economic and socio-cultural arrangements, not only has the perception and understanding of sustainability differed across the two regions but the priorities related to the process of sustainability transition have also been of a contrasting nature. However, despite different backgrounds, each region has made significant progress towards achieving sustainability across one or more dimensions in its own way, thereby providing valuable lessons to other regions in the world regarding effective sustainability planning. Furthermore, divergent priorities – and as a consequence, often contradictory approaches to operationalise sustainability – underpin the fact that a generic understanding of the concept of sustainability is neither possible nor required; and that the whole concept is constantly evolving in accordance with contextual demands and local institutional, social, economic and environmental settings.

The chapter contains three main sections. The first section discusses the case of Curitiba, its achievements, challenges and useful lessons regarding operationalising long-term sustainability. Section 3.2 discusses Oregon's planning for holistic sustainability and its

strengths and weaknesses. The final section draws together lessons that the two cases offer to other regions in the world with regard to operationalising sustainability. Finally, the chapter concludes by highlighting important findings from the discussion.

3.1 CURITIBA

Curitiba is the capital of Brazil's south-eastern state of Parana (see map 1). The city has witnessed one of the fastest rates of population growth in Brazil (table 3.1).

Table 3.1: Curitiba's population growth (1940-2005)

Year	1940	1965	2001	2005
Population	140,000	500,000	1.59 million	1.78 million

Source: (Herbst and Allor 1992; Rabinovitch 1992; Macedo 2004;
The Development Company of Curitiba 2007)

Curitiba's massive population growth has largely been due to the state's shrinking and increasingly mechanised agricultural sector (Friberg 2000). The latter has forced people to move to urban centres, thereby requiring massive adjustments in the city's administrative, social and economic policies. Tables 3.2 and 3.3 below provide a comparative summary of important socio-economic indicators for Curitiba and Brazil. The data presented will help situate Curitiba within Brazil's larger social, economic and institutional arrangements.

The city authorities acknowledge that Curitiba has not been able to solve all of its underlying problems. The metropolitan region of Curitiba (RMC) has long been neglected as all available resources have been delegated for the development of Curitiba city (Macedo 2004). 'Curitiba has always been planned as if it were an island.' (Macedo 2004, p.548) Despite these challenges, Curitiba's policymakers have delivered some fine planning initiatives to operationalise long-term sustainability. The city's unusual strength is the presence of a strong political will that believes in developing solutions which harmonise innovation, cost effectiveness and partnerships between public, private and political bodies (Basiago 1999; Macedo 2004). As the following discussion suggests, Curitiba has not only firmly developed itself into a long-term sustainable city from a holistic perspective but its achievements have also strengthened the role pro-active institutions and a determined civil leadership can play in positively influencing a city's future development and growth prospects.

Map 1: Curitiba

Table 3.2: Socio-economic indicators for Curitiba and Brazil

	Total population (million) (2005)	Average monthly income[1] (US$) (2000)	GDP (US$ billion) (2004)	Per capita GDP (US$) (2004)	National share in employment (%) (2005)	Unemployment rate (%) (2006)	Illiteracy rate (%) (2002)	Annual population growth rate (%) (2000-05)
Curitiba	*1.78*	*782 US$*	*6.53*	*3,782*	*1.95*	*5.6*	*7*	*2.04*
Brazil	186.8	421 US$	663.6	3,654	--	9.8	26	0.98

Source: (Kroll 2002; IBGE 2005; The Development Company of Curitiba 2007; OECD 2008)

Table 3.3: Employment patterns for Curitiba and Brazil (2005)
(% of total employment by economic sectors)

> NOTE:
> This table is included on page 58 of the print copy of
> the thesis held in the University of Adelaide Library.

Source: (The Development Company of Curitiba 2007)

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[1] Income for income-earning heads of private permanent households

3.1.1   Curitiba's sustainability planning achievements

'A Brazilian city challenges conventional wisdom and relies on low technology to improve the quality of urban life.' (Rabinovitch and Leitman 1996, p.26) Curitiba's planners and policymakers have traditionally focused on people-centric approaches to foster long-term sustainability in the region (MacLeod 2002). Curitiba's strength lies in several institutional efforts that have aimed towards integrating environmental, social and economic concerns to achieve an improved overall quality of life (Rabinovitch 1992; O'Meara 1998).

1)   *Land use planning – Curitiba's long term vision*

Curitiba's long-term vision for sustainability has involved the development of a well-planned land use policy. While most cities in the world around the 1950s were planning for concentric development around the city centres, planners in Curitiba challenged this view by developing a linear mixed land use system that spread strategically outwards along five main axes (figure 3.1). Each axis hosted both commercial and residential services, thereby leading to several economic, social and environmental advantages for Curitiba's long-term sustainability (Rabinovitch and Leitman 1996; Friberg 2000; Matsumoto 2002; Rebelo 2003; Federal Transit Administration 2006). Linear growth resulted in a more equitable distribution and easy access of inner city facilities across the whole region. In addition, it also contributed to the development of an extensive public transportation system and a fairly decongested city centre (Friberg 2000).

Another objective of Curitiba's earliest planners was to preserve the city's historical and cultural identity (MacLeod 2002; IPPUC (n.d.)). Since most of the heritage was concentrated in the city's centre, cultural restoration provided another strong reason for city authorities to prevent unnecessary growth and congestion in the downtown area. Outwards growth was therefore, encouraged while simultaneously developing the city centre into a pedestrian area (MacLeod 2002). The latter, in turn, helped preserve Curitiba's 16th century old cultural heritage (Rabinovitch 1992; Macedo 2004). At the same time, it was acknowledged that in order to boost growth along linear axes and to encourage public to move away from the city centre, job opportunities needed to be created along these axes. An increasing number of jobs outside the city thus called for a well-networked public transit system. As a result, early land use planning in Curitiba was extensively integrated with an efficient network of public transportation system (Matsumoto 2002; Federal Transit Administration 2006).

2) *Buses and public transportation – Curitiba's success story*

According to Kroll (1999, p.93), 'Integrated transport is the crowning success of Curitiba.' In fact, the city's public transport system has been acknowledged as one of the world's best and has therefore, invited researchers and planners from several countries to take lessons from its performance and unfailing competence (Friberg 2000; Wright 2001; Federal Transit Administration 2006). Curitiba has a well-defined, efficient and hierarchical network of buses of several kinds that are distinguishable by their colours (Rabinovitch 1992). Box 3.1 below explains the role of each bus in strengthening the efficiency of Curitiba's bus transit system.

Box 3.1: Curitiba's hierarchical bus transit system

- *Express buses* (red) run along dedicated express bus ways that are part of the 'ternary system'. They stop at special tube-shaped bus stations that allow quick and easy passenger loading and unloading;
- *Inter-district buses* (green) connect various parts of the city and provide accessibility links between inner city sections and rapid and express bus routes;
- *Feeder buses* (orange) run on mixed traffic roads and bring passengers from residential neighbourhoods to district bus terminals. The latter provide fast inter-district and circumferential city connections.

Source: (Friberg 2000; Matsumoto 2002; Fraser 2006)

The 'backbone' of Curitiba's public transport is the ternary road system that offers exclusive bus ways, thereby resulting in increased efficiency in bus speeds (without being affected by mixed traffic congestion), quick embarking and disembarking (due to specialised bus stations) and large carrying capacities (use of bi-articulated buses) across several routes (Federal Transit Administration 2006) (figure 3.1).

Apart from high efficiency, Curitiba's bus transit system is based on low economic investments. On an average, the bus system has required an investment of only US$ 1.5 million per kilometre. This is much lower when compared with tram or subway arrangements that could cost between US$ 10 and 100 million per kilometre respectively (Matsumoto 2002). Besides, the operation and technology around a bus is relatively simpler and therefore, does not require much external consultation (Rabinovitch and Leitman 1996). Furthermore, a single fare policy across all buses has enhanced the affordability of the transit system (Herbst and Allor 1992;

MacLeod 2002; Macedo 2004). A uniform 'social fare' has thus been a particularly relevant institutional step in enabling the large under-employed population of *favelas* to become socio-economically included within Curitiba's larger society.[2]

Figure 3.1: Curitiba's land use and transportation plan

Ternary Road System

▬	Structural Axes
⬭	District bus terminals
▯	Local access lane for cars
▯	High capacity 1-way routes
▯	2-way express lane bus way
↔	Commercial and residential land use along structural axes
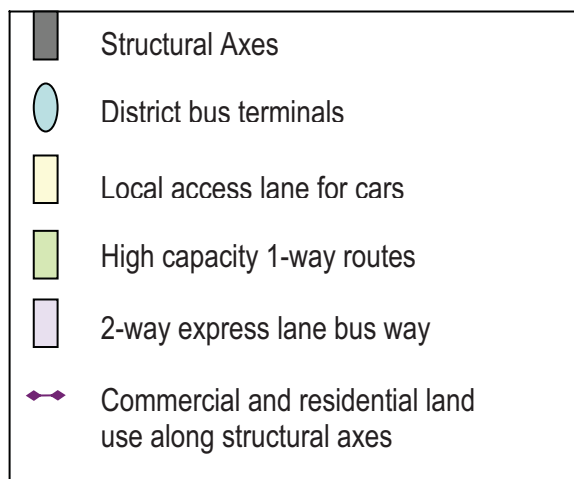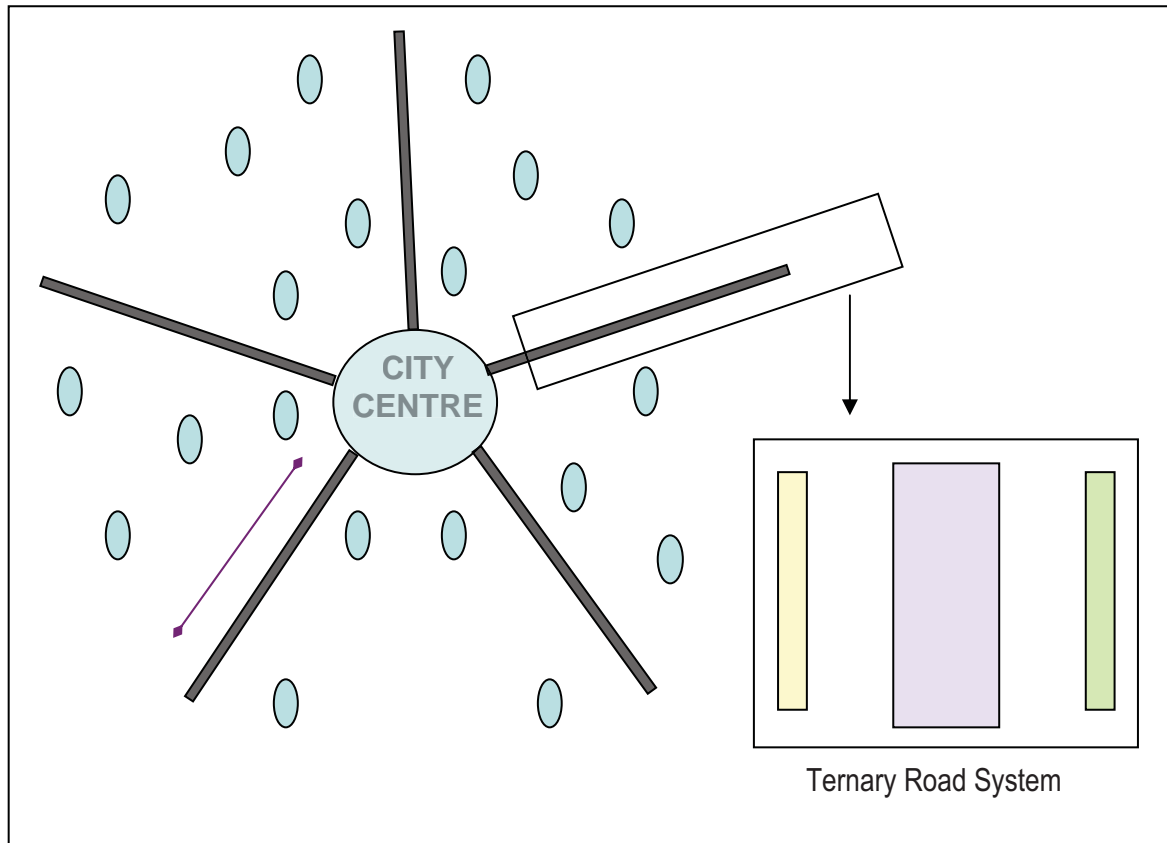
With a strong bus transportation system in place, Curitiba's long-term sustainability has benefited on more than one account. Table 3.4 below indicates average rate of public transportation use in Curitiba.

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[2] Favelas are Brazilian low-income squatter settlements (slums)

Table 3.4: Curitiba's bus transit usage indicators (2004)

Total number of buses in use	Total number of trips made per day	Total number of passengers served per day	% of total travel done by public transportation	User satisfaction rate (%)
2,585	22,960	2 million	75	89

Source: (Friberg 2000; Macedo 2004; The Development Company of Curitiba 2007)

High public transport use has led to reduced fuel consumption per person and improved quality of air. Curitiba's per capita fuel use is almost 25-30% less than the national average (Friberg 2000; Matsumoto 2002; Macedo 2004; The Development Company of Curitiba 2007). Greater use of buses has also brought savings for its citizens. The average public expenditure on transport (only 10% of the total income) in Curitiba is significantly low when compared to other big cities in Brazil (Rabinovitch 1992; Federal Transit Administration 2006). Furthermore, the popularity of buses – a direct result of an efficient network coupled with affordability, convenience and time frequency – has resulted in increased usage, thereby making the transit system self-financed. The public transport system operates with no direct subsidy thus maintaining itself in a self sustaining mode (Basiago 1999; Friberg 2000).

Besides, the average bus in Curitiba is approximately only three to five years old (Rabinovitch and Leitman 1996; Friberg 2000). The old buses are refurbished and are then used as mobile classes to provide vocational training (hair dressing, gardening, and environmental awareness) to people from *favelas* and other socially disadvantaged communities (Herbst and Allor 1992; Meadows 1995). To this extent, Curitiba's rapid bus system has not only provided a cheap, less-polluting and reliable transportation option but has also encouraged deep-rooted integration across social, economic and environmental dimensions to ensure long-term sustainability in the region.

3) Waste management – Curitiba's innovation

With constantly expanding boundaries and increasing population, developing a waste management system that is both cheap (limited investment) and easy-to-use (people-friendly) has long been an institutional priority for Curitiba's planners and policymakers. To address the issue, two innovative programs of waste management have been successfully implemented:

Program 1: 'Garbage that is not garbage'

With a determined pro-environment leadership, Curitiba's governance has played an important role in developing a recycling program that has spread environmental awareness through

school children (Kroll 1999; MacLeod 2002). The children are given lectures on the importance of a clean environment and the need to sort garbage into recyclable and non-recyclable products. As envisaged, school children have gradually become the crusaders of this program by informing and subsequently, teaching their families about sorting garbage into paper, cardboard, metal, plastic and glass (MacLeod 2002). Established in 1989, the program has been hugely successful in terms of transforming Curitiba's long-term waste management practices. Currently, 70-75% (approximately, in excess of 100 tonnes) of city's recyclable garbage is recycled per day (Fraser 2006; Vidal-Hallett and Hallett 2008). 'Curitiba's paper recycling alone saves the equivalent of 1,200 trees a day.' (MacLeod 2002, p.4) The recyclable garbage is treated at a plant which is itself made of recyclable material. Staff employed at the plant consists of homeless and those struggling to free themselves of alcoholism (Fraser 2006). As a result, the program has not only contributed to improved environmental quality in the city but has also provided a platform to integrate Curitiba's socially excluded sections through innovative planning and policy initiatives.

Program 2: 'Garbage exchange program'

With a constant influx of rural population from other regions of the state of Parana into Curitiba, there has been a steep rise in *favela* settlements. More than 10 percent of Curitiba's existing population lives in these areas (Rabinovitch 1992; Basiago 1999; Macedo 2004). The latter has resulted in shabby and unhygienic living conditions in different parts of the city. In order to encourage people from these communities to manage their own waste, 'Purchase of Garbage' program was started in the early 1990s. The program encouraged the poor to exchange their garbage for bags of local food produce and coupons for public bus transit (Meadows 1995; Kroll 2002; Wermus 2005; Fraser 2006). In economic terms, the program has remained affordable for the local government as it saves the cost of hiring an external agency to collect garbage from shanty towns (Rabinovitch 1992). In totality, the program has served several sustainability objectives simultaneously, 'cleanliness, the fight against pollution and disease, healthy nutrition, civic education and sales of agricultural surplus' (Wermus 2005, p.2). Ethically, the initiative has strengthened ties between different community groups. The local government has demonstrated that it is keen on encouraging social inclusion of the squatter communities by planning programs that are socially, economically and environmentally favourable for these groups on a long-term basis (Kroll 2002).

4) *Protection of green areas and other social services – Curitiba's strategy*

As mentioned earlier, the conversion of the city's downtown area into pedestrian space has contributed to large-scale historical and cultural preservation. Curitiba's planners have refurbished old factories into commercial shopping malls while maintaining their cultural sanctity in order to create public spaces for community interaction and social activities (Rabinovitch 1992).

Table 3.5: Curitiba's ecological indicators (2006)

Total parks and woodlands	31
Green area per inhabitant (m^2)	51
Total network of bike paths (km)	150

Source: (Kroll 2002; The Development Company of Curitiba 2007)

Furthermore, local governance in Curitiba has duly considered ecological preservation and conservation in planning for holistic sustainability (see table 3.5). The citizens – with support from the local government – have planted approximately 1.5 million trees to provide a natural and a community-oriented feeling to various parts of the city (MacLeod 2002; Fraser 2006). Besides, the open space and green area per inhabitant has increased from less than 1 square metre in 1970 to approximately 51 square metre in 2006 (Rabinovitch 1992; Kroll 1999; Wermus 2005; Vidal-Hallett and Hallett 2008).

In order to maintain public support for a pedestrianised downtown, bike paths have been constructed along the green belts thereby encouraging cycling to and from the centre. More than 150 kilometre of bike paths have already been developed giving the entire downtown area a pro-environment appeal (Kroll 2002; Macedo 2004). There are also special work bike paths that connect residential parts of the city with the Curitiba Industrial City (CIC) founded in 1973 (Herbst and Allor 1992; MacLeod 2002).[3] Due to its efforts to maintain a high ecological quality, Curitiba won the 1990 UN prize for environmental planning (Kroll 2002).

Of the many social services developed by city authorities over time, 'The Infant and Adolescent Environmental Education Programme (PIA)' has gained popular international attention for its focus on the children of *favelas* – Curitiba's least developed section of the society (Kroll 2002;

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[3] The CIC was developed in natural surroundings inside a park (Kroll 1999). It allows only non-polluting industries to be set up and offers a mixed land use of residential, commercial and recreational services (Moore 1994).

The Development Company of Curitiba 2007). PIA involves teaching and empowering kids from *favelas* and other low-income families. Children from these communities are fed, taught and treated with medication by local people employed by the program. According to Rabinovitch (1992, p.71), 'Before PIA, *favela* children were often isolated socially. Now they feel more part of the community'. For its socially enriching ideals, PIA was nominated as a United Nations Local Government Honours Programme (Rabinovitch 1992).

Several other social campaigns have been organised to increase environmental awareness among the locals. The city has established *Unilivre*, a Free Open University for the Environment that offers environmental courses to interested people from varied backgrounds, thereby intellectually empowering the citizens to preserve and improve the quality of the local environment (Kroll 2002; Wermus 2005). Besides, the local government runs extensive courses on environmental education in its primary schools due to its belief that greater environmental values among children will add to Curitiba's long-term sustainability (Rabinovitch 1992; Kroll 1999). In the words of Jamie Lerner, Curitiba's Mayor whose vision and leadership has guided the city to its present achievements,

> The strategic vision leads us to put the first priorities on the child and the environment. For there is no deeper feeling of solidarity than that of dealing with the citizen of tomorrow, the child, and the environment in which that child is going to live (Meadows 1995, p.59).

In conclusion, Curitiba's planning initiatives offer several important lessons for both developing and developed regions. Firstly, Curitiba's achievements suggest the role that people-centric governance arrangements may play in achieving long-term holistic sustainability. Secondly, Curitiba's planners have developed cheap, innovative, easy-to-implement and integrated solutions to some of the most pressing local challenges related to waste management, public transportation, and environmental awareness. Thirdly, all of Curitiba's accomplishments have encouraged extensive community participation. This has not only enhanced public support for institutional initiatives but has also contributed to the inclusion of public demands and priorities during planning for sustainability. Fourthly, the city's policymakers and planners have acknowledged the importance of holistic sustainability and have therefore, worked closely on several cross-cutting themes such as social inclusion, environmental education, mixed land use and integrated public transportation.

3.2 OREGON

Oregon, a state on the west coast of the United States (see Map 2), is recognised for its well-defined strategic vision of development (Tyrens 1997). This section briefly presents the case of Oregon – the state's history that led to the establishment of the vision, its main development objectives and the progress that has been made in achieving the vision. The section also presents the most significant strengths and weaknesses of Oregon's development strategy that has largely defined the path adopted by the state to pursue long-term sustainability. Finally, the section ends with some important lessons that can be drawn from Oregon's development experience in operationalising holistic sustainability.

Map 2: Oregon

3.2.1   The genesis of Oregon's sustainability vision

Historically, Oregon has been a region abundant with natural resources. Its earliest industrial base was primarily dependent on timber and agriculture (Obermiller, Miles, Weber and Cornelius 1982; Hibbard 1999; Lewis and Lockhart 2000). In 1981, timer- and agriculture-based industries maintained equal share in Oregon's total employment (table 3.6). The trend of heavy dependence on timber and agriculture as main economic drivers continued until the late 1970s, an era which signified that 'timber was king and the Oregon economy was humming

along … well' (Tyrens 1997, p.1). The economic boom therefore, contributed to a growing, successful public sector, thereby resulting in high levels of social indicators until the early 1970s (table 3.7) (Hofferbert 1968; Kittredge and Kissler 1998).

Table 3.6: Oregon's early industrial base

	Total employment (1981)	% of total employment
Timber	75,500	6.0
Agriculture	73,700	5.85

Source: (Obermiller, Miles *et al.* 1982; City of Junction City 1993)

Table 3.7: Oregon's rank (out of 48 states) based on indices of social structure

	1890	1920	1940	1960
Industrialisation	33	22	29	28
Cultural enrichment	*13*	*6*	*3*	*5*
Welfare Orientation Rank*	*7*			

Source: (Hofferbert 1966; Hofferbert 1968)
* Based on mean expenditure for elementary and primary education, aid to the blind, aid to dependent children, old age assistance and unemployment compensation for 1952-61.

This trend however, soon reversed with the economic crisis that hit the United States in the early 1980s. Oregon's economic collapse resulted in low wages and exceedingly high unemployment rates (Kittredge and Kissler 1998). The national economic distress was further aggravated due to a growing international demand for newer technologies, changed market behaviour and rising public environmental consciousness (Hibbard 1999; Lewis and Lockhart 2000). The latter, in particular, had an inevitable impact on Oregon's economy which was until then primarily based upon natural resources including fishing, farming and forestry.

The resulting economic stress has inhibited Oregon's total socio-economic comeback since the 1980s. Although the state has managed to recover slowly from the crisis, social and economic quality of life has remained below the national average standard for a large majority of Oregonians (see tables 3.8 and 3.9 below). As table 3.9 suggests, Oregon's unemployment rate has constantly remained higher than the national average since 2000 (Ayre 2005). It was this economic – and therefore, social – crisis that forced the state's planners and policymakers to develop a strategy that could respond to the plummeting economy. In 1988, the state governor suggested a planning effort with the primary aim of helping Oregon recover from the

economic crisis while 'sustaining and building a high quality life for all citizens' (Walker and Strawn 2004, p.1).

Table 3.8: Socio-economic indicators (comparison between Oregon and US)

	Median household income (2006)	Crime rate (1998)	Average earnings per job (2005)	Average annual pay (1998)	Change in Annual pay % (1997-98)	People below poverty line (%) (2003)	Black-owned firms (%) (2002)
Oregon	46,230	4,616	41,152	29,542	4.0	13.9	0.7
US	48,451	5,647	45,817	31,908	5.1	12.7	5.2

Source: (Bureau of the Census 2008; Oregon Economic & Community Development Department 2008)

Table 3.9: Unemployment rates for Oregon and US

NOTE:
This table is included on page 68 of the print copy of the thesis held in the University of Adelaide Library.

Source: (Bureau of Labor Statistics 2008)

3.2.2   Oregon's planning strategy: Oregon Shines

As explained above, following the severe economic crisis that disturbed Oregon's economy, a strategic planning effort was adopted by the state's policymakers to reclaim the loss in social and economic quality of life across the state (Davis and Weber 1998). A detailed plan was thus formulated in consultation with leaders and representatives of various communities including business, labour, farmers, government and social workers. The final action plan presented in 1989 was a strategic document called *Oregon Shines: an economic strategy for the Pacific century* (Tyrens 1997). The plan outlined Oregon's vision for the future, initiatives needed to achieve the vision and strategies for the implementation of initiatives. Following Oregon Shines, the institutional authorities decided to create a largely bipartisan independent state authority responsible for operationalising the strategic vision (Lewis, Lockhart and Montreuil 2000; Engel and Miller 2007). The establishment of a formal entity – the Oregon Progress Board – that would oversee state-wide performance in meeting the goals was expected to result in increased efficiency and accountability in the overall management of Oregon Shines (Young 2005).

At the beginning, the overarching objective of Oregon Shines was to develop actions that 'would counter the inexorable decline in the economy' (Lewis and Lockhart 2000, p.5). Although the earliest idea was to revitalise the state's economic situation, it was soon realised that focus on economic planning in isolation with measures for social and environmental development would not change Oregon according to the vision developed in Oregon Shines (Kittredge and Kissler 1998). Besides, changes in national and international development priorities further necessitated the need for transforming Oregon Shines from being a purely economic planning strategy document into one that maintained a more all-encompassing agenda to achieve holistic sustainability. It was thus established that the aim to bring about long-term positive changes in Oregon's development process could only be made possible by 'using, developing and protecting resources in a manner that enable[d] people to meet current needs and ... future generations [to] meet future needs, from the joint perspective of environmental, economic and community objectives' (Oregon Sustainability Board 2003, p.4).

In light of these observations, the policy document of Oregon Shines has decided upon three key goals to achieve sustainability. It is expected that these goals would provide the impetus for the state's development over a 20-year period extending from the late 20th century to the present decade (Schlossberg and Zimmerman 2003).

1. Quality jobs for all;
2. Safe, caring and engaged communities; and
3. Healthy sustainable surroundings.

To achieve these three goals, a set of 92 benchmarks (or indicators) have been developed. The primary objective of these benchmarks has been to devise initiatives in the areas of economy, education, civic engagement, social support, public safety, community development, and the environment. In doing so, the benchmarks provide, 'meaningful targets and measures that bring focus to action and resource allocation' (Lewis and Lockhart 2000, p.4). Using time-specific targets, it is believed that the Oregon benchmark system reveals a comprehensive picture of the state's performance on various fronts.

3.2.3   Oregon Shines: a review of major weaknesses and strengths

The literature suggests that although Oregon has been able to slowly recover from the economic crisis of the 1980s, the state's overall performance in achieving its vision of holistic

sustainability has been marginal (Kittredge and Kissler 1998; Becker 2007). While the Oregon Shines document has made significant accomplishments in planning and delivering strategies for Oregon's socio-economic revitalisation, there have also been some strong criticisms. The following discussion highlights some of the most impressive achievements of Oregon Shines so far. It also presents important bottlenecks that may inhibit Oregon's long-term transition to sustainability.

1)   Oregon Shines' strengths

Oregon Shines strengthens Oregon's global reputation of a 'public policy innovator' (Tyrens 1997). The two most significant contributions of Oregon Shines to the state's strategic planning are: a culture of partnerships and a trend of outcome-orientated performances (Lewis and Lockhart 2000; Lewis, Lockhart and Montreuil 2000; Tyrens 2004; Boyce, Hibbard and Gray 2005). To achieve its earliest vision of boosting economic growth, Oregon Shines encouraged rigorous civil society engagement in planning for the state's current and future development. This, in turn, resulted in the adoption of participatory approaches throughout various stages of drafting, designing and implementing Oregon Shines. Besides, various community meetings and public hearings have been conducted from time to time across several rural and urban regions in the state to enhance public involvement in the review and update process of the planning document.

Local community participation programs have helped people 'feel connected' with developments in the state by providing them suitable platforms to 'voice' their opinions and experiences (Tyrens 1997). In addition to this, Oregon Shines has brought together people – experts, locals and community representatives – to achieve the common good of Oregon's long-term vision by encouraging partnerships and numerous collaborative efforts (Lewis and Lockhart 2000; Becker 2007). Absence of political influences and elitist biases in the selection and implementation process of the benchmark system, for example, has increased the credibility and accountability of the entire process related to the development of Oregon Shines (Lewis and Lockhart 2000; Lechter and Tyrens 2003; Becker 2007). This has further strengthened the willingness and the commitment of the local public to participate in Oregon's democratic development.

By mapping Oregon's future vision, Oregon Shines has generated a common objective for the state's civil society and policymakers (Young 2005). Together, these groups have facilitated

massive collaborative efforts by engaging private, public and civil society organisations to cooperate and guide policy actions in realising Oregon Shines' three primary goals listed previously (Lechter and Tyrens 2003). The state's efforts to operationalise sustainability ideals across different levels are supported by the recent identification of Portland, the state's largest city, as one of the three international cities undertaking some of the most aggressive practical measures to achieve holistic sustainability (Grewe, Anderson and Butman 2002). To this extent, Lewis and Lockhart (2000, pp.5-6) argue that the strategic document of Oregon Shines has been able to

> provide a more cohesive and collaborative foundation for a [*sic*] preserving and improving the quality of life for all citizens ... [by establishing] institutional partnerships among groups that have traditionally operated independently or even antagonistically toward one another.

Furthermore, Oregon Shines has contributed to the establishment of an 'outcome-oriented' governance mechanism (Lewis and Lockhart 2000). The attempt to map future priorities and subsequently, develop decisive measures to achieve these priorities has significantly altered the planning and decision making culture throughout the state (Boyce, Hibbard and Gray 2005; Becker 2007). Such result-oriented working style has, as Tyrens (2004) suggests, increased the efficiency of several state agencies in that the latter are able to 'look up' to various indicators and targets to evaluate their own performances (Young 2005). Misaras (2007) examines the extent to which the benchmark system has been used by various state agencies and legislative bodies in preparing their plans, strategies and goals. For instance, her work confirms that the state's Commission on Children and Families, city and county governments, the Superintendent of Public Instruction, Health Division and other state agencies have applied several benchmarks to view and strategise their own functioning and link agency performance to statewide goals and budget development. This has led to greater collaboration and wider social acceptance of benchmarks in Oregon's political and socio-economic arrangements (Lewis, Lockhart and Montreuil 2000; Misaras 2007).

2) Oregon Shines' limitations

Despite several achievements to its credit, the practical extent to which Oregon Shines has led to better informed policymaking and implementation needs further examination (Tyrens 2004; Becker 2007). While benchmark indicators and targets suggest goals that need to be achieved, the planning document *per se* does not provide practical strategies on 'how' to reach these goals. Oregon Shines therefore, only focuses on the current trends in Oregon, and in the

process, provides a set of expectations for future statewide development (Lechter and Tyrens 2003). However, its capacity to offer details on how to alter current and future trends favourably is rather limited (Fountain 2002).

Furthermore, Oregon benchmarks are not directly linked to the state's budgeting process; 'Fiscal and political considerations, not benchmarks, drive budget decisions.' (Lechter and Tyrens 2003, p.13) As a result, there is a lack of suitable incentives to state agencies to improve their performance in meeting the benchmark targets. The lack of an external driving force – for example, extra revenue benefits – often leads to reduced interest among various agencies in using benchmarks to manage and orientate their individual performances in accordance with the long-term sustainability vision of the state (Lechter and Tyrens 2003).

Besides, the definition of sustainability developed by the State of Oregon does not 'specifically recognise social wellbeing as a goal area' (Zimmerman 2002, p.18). The four goals that define Oregon Shines' sustainability vision call for greater economic viability; improved efficiency in water, energy, material and land use; reduced emissions of harmful substances to air, water and land; and reduced impacts on biodiversity. In practice therefore, Oregon's sustainability idea lacks an all-inclusive holistic approach.

 In addition to the above issues, Oregon Shines has also been criticised for developing a large number of benchmarks (Hardi, Barg, Hodge and Pinter 1997). Since 'the benchmarks ... are reviewed and analysed individually and are not currently synthesised or integrated in a way that attempts to look at sustainability', it has become difficult to establish links between different indicators (Schlossberg and Zimmerman 2003, p.645). Lechter and Tyrens (2003) further support this institutional inability of Oregon Shines to address the complexity and multidisciplinarity associated with the concept of sustainability. They argue that although the areas of poverty, health, education and public planning together contribute to the establishment of a safe, caring and engaged community, the existing culture of selecting a benchmark for community health essentially ignores the interplay between these fields (Lechter and Tyrens 2003).

Finally, the selection of benchmarks – although based upon community needs and suggestions – has been considered to be a sporadic process (Hardi, Barg *et al.* 1997). The absence of a binding development framework to guide a long-term justifiable selection of benchmarks

inhibits the performance of state agencies in developing a coherent knowledge base regarding the adoption and implementation of sustainability principles in their regular working routines (Farrell, Mintz and Zimmerman 2002). In light of above observations, various authors have strongly argued in favour of embedding the holistic theme of sustainability into the policies and general work culture practices of all government and civil society organisations across Oregon (Tyrens and Silverman 2000; Farrell, Mintz and Zimmerman 2002; Zimmerman 2002; Lechter and Tyrens 2003).

3.3 LESSONS FROM CURITIBA AND OREGON

The above discussion suggests several theoretical and practical lessons that may be drawn from Curitiba's and Oregon's sustainability planning achievements. The latter may be particularly useful to various developing and developed countries that are interested in achieving a long-term sustainability transition.

Curitiba's success has firmly established the significance of *civic leadership* in guiding local current and future development. Besides, the primary themes around which Curitiba has been planned since the 1970s suggest the importance of *integrated and mutually-reinforcing development* in addressing several sustainability-related challenges. Further, Curitiba's planners have shown that it is possible to achieve success without excessively relying upon huge economic investment. Several of Curitiba's accomplishments have been possible due to *innovative programs and policies* that have brought together various socio-economic groups in practice. Finally, the *emphasis on children and younger population* as the 'crusaders' to strengthen community support towards the environment provides an important lesson for several low-income, high-population countries that lack the financial resources to spread environmental awareness among their population.

Similarly, Oregon provides important lessons for effective governance. Firstly, the use of *benchmark indicators* a) to take stock of the current progress towards sustainability and inform the government, state agencies and local citizens about the state's overall performance in achieving its long-term vision; and b) to indirectly establish new strategies that may be adopted to address immediate and future challenges, suggests the importance of a pragmatic and futuristic system based on quantifiable indicators and targets to achieve long-term

sustainability. Secondly, Oregon's experiences confirm the role that *collaborative efforts and partnerships* between various communities like education, private business enterprises, labour, and social service can play in enhancing the chances of operationalising sustainability by addressing several local and regional multidisciplinary challenges.

Thirdly, Oregon's success in transforming its economic and social arrangements has largely been due to the adoption of a *'bottom-up' approach* that has stressed the importance of *public participation* through all stages of the sustainability planning exercise. On the one hand, the participatory process has encouraged the locals to become a part of the state's development process by contributing indigenous knowledge. On the other hand, community involvement has raised public awareness regarding the government's socio-economic and environmental revitalisation strategies. This has, in turn, changed public's moral and ethical attitudes with regard to issues like community bonding, over-consumption and unsustainable lifestyles (Tyrens and Silverman 2000).

Box 3.2 below highlights important issues based on Curitiba's and Oregon's experiences that will help other regions to successfully operationalise sustainability. These issues further strengthen sustainability elements and characteristics that were derived from the study of related literature in the previous chapter.

Box 3.2: Useful lessons from Curitiba and Oregon for operationalising sustainability

- Establish effective civic leadership;
- Encourage public participation and a bottom-up approach in planning;
- Develop a set of quantifiable targets and measurable outcomes to check progress;
- Follow an integrated, multidisciplinary development process that brings together various cross-cutting issues;
- Develop simple, easy-to-understand, innovative and affordable practical solutions;
- Emphasise on children and younger population; and
- Encourage large-scale partnerships and collaboration between different socio-political groups.

As a concluding observation, both Curitiba and Oregon offer various sustainability lessons – short- and long-term, governance-related and environmental – to both developed and developing countries. Although there is much scope for further improvement in their sustainability planning and operationalisation processes, there are nevertheless several important messages that can be drawn from Curitiba and Oregon regarding the development of a sustainability vision and its subsequent implementation. Their experiences with socio-economic and environmental development strengthen the understanding that there is no single path to sustainability; instead, both conventional and unconventional routes may be followed to achieve the desired transition.

CONCLUSION

This chapter has presented two distinct examples where both have attempted to operationalise sustainability from varied perspectives. Differences in social, economic, institutional and environmental conditions across the two regions – Curitiba and Oregon – have demanded context-specific priorities to meet immediate development objectives. As a result, the approaches employed to achieve sustainability have been distinct and localised in their scope. Yet, the fact that each approach has been fairly successful in bringing about desired changes reinforces the argument made in the previous chapter regarding the diverse nature of sustainability, the need for different solutions and the theoretical and practical dilemma associated with the development of a singular approach to operationalising sustainability.

Despite vast differences in local priorities and resulting diverse approaches for sustainability operationalisation, the discussion has argued that the underlying theme within the process of sustainability planning across both cases suggests similar characteristics including, *inter alia*, the role of the civil society and community interaction, the role of effective governance and pro-public civic leadership, the importance of high environmental quality, and the role of education and subsequent empowerment of the disadvantaged sections of the society. Different combinations of these features have been central to the efforts made by both Curitiba and Oregon in achieving sustainability.

In sum, while there remain several distinct factors that limit Curitiba and Oregon in achieving holistic sustainability, the discussion nevertheless argues that operationalising parts of the

larger sustainability picture is possible within given human and economic resource constraints. In doing so, it suggests the importance of planning for sustainability to establish long-term concerted and cross-cutting approaches to translate theoretical visions into successful practical outcomes. The next chapter discusses planning and its contribution in the process of operationalising holistic sustainability.

CHAPTER FOUR[1]
PLANNING FOR SUSTAINABILITY

INTRODUCTION

Planning is an everyday activity. Whether it is about going to the supermarket with a list of things to buy or deciding upon which route to take to work that would have the least traffic, planning is inevitable. It is not just a way of doing things; it is rather a way of guiding actions to maximise the chances of positive results in the future (Sager, 2001; Scanlan and Gillen, 2004). According to Wheeler (2004), planning involves designing activities such that they lead to intended goals in the long run. In the context of sustainability, whether the concern is to plan for reduced carbon emissions globally, or to maintain national food and water security, or to develop a local literacy program, a sustained focus on planning is essential. This chapter explores the concept of planning and its implications on the process of making the transition to holistic sustainability.

The chapter is divided into three main sections. The first provides a brief background to the role of planning and various models that have been developed and applied. The next section establishes the relation between planning and sustainability. The focus is mainly on how planning can enhance the chances of achieving sustainability. The final section reinstates the relationship between planning and sustainability from the point of view of the current research. It develops a set of criteria that may be used to evaluate the efficacy of contemporary planning pathways. Finally, the chapter concludes with the main findings thus reaffirming the role of planning in achieving sustainability.

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[1] An abridged version of this chapter has been published as a peer-reviewed journal article in The International Journal of Environmental, Cultural, Economic and Social Sustainability (2007), Volume 3, No. 3, pp.173-181; see Appendix 4(a)

4.1 INTRODUCTION TO PLANNING

Planning as a profession garnered public interest following the industrial revolution that led to poor living conditions for a large majority of people across the world (Wheeler 2004; Lane 2005). The resulting widespread misery due to socio-economic devastation prompted scholars to encourage purposeful actions which, over many decades, have resulted in a more formal discourse called planning.

> The Great Depression and World War II provided decisive boosts to … a new repertoire of methods … and a firm belief that we can solve enormous problems with a little application of foresight and coordination in the public sector (Hudson 1979, p.396).

As a result, various planning models and theories have been formulated over several decades. The increasing professional focus has, in turn, led to the spread of planning across a wide range of disciplines – political, social, environmental and economic – within public, academic and private sectors. It is therefore, considered that planning 'covers too much territory to be mapped with clear boundaries. It overlaps far into the terrain of other professions, and its frontiers expand continually with the historical evolution of social problems to be solved' (Hudson 1979, p.388). Since planning cuts across a large number of discourses, it involves a multitude of actors from government to civil society organisations to multi-national corporations to academia and local citizens. Planning thus, like sustainability, is a challenging process (Gleeson 2003; Friedmann 2005; Dredge and Coiacetto 2006).

Numerous attempts have been made so far to comprehend planning – its essential characteristics, underlying theories and associated dilemmas (Hudson 1979; Hall 1983; Friedmann 1993; Alexander 1994; Beatley and Manning 1997; Fainstein 2000; Wheeler 2004). Although these attempts have strengthened the indisputable role that planning has played in fostering development – political, environmental, social or economic – at local, national and global levels, they have nevertheless failed to establish a satisfactory understanding of planning as a concept (Gleeson 2003; Dredge and Coiacetto 2006). The uncertainty surrounding planning is well explained by Gleeson and Low (as quoted in Dredge and Coiacetto 2006, p.27):

> Planning is a dialectical concept rather than an analytical one. An analytical concept is one that can be perfectly and finally defined in such a way that we can know what it is and what it is not. A

> dialectical concept, on the other hand, is one which overlaps with other concepts and even its opposite. It (planning) is a concept, like 'justice' or 'democracy' or 'money', crucially important to social life, but one which can never be pinned down to a unique, perfectly encompassing definition.

It is this lack of precise meaning and resultant ambiguities that have impacted the process of operationalising planning initiatives to achieve holistic sustainability (Hudson 1979; Friedmann, 1997; Forester, 1999).

Despite the underlying theoretical confusion, the practical necessity and the utility of planning is quite significant. Beatley and Manning (1997) argue that efficient planning may provide enormous strength to the possibility of achieving a state of overall wellbeing. They emphasise the role of planners in positively linking the interests of institutional bodies with those of business and social communities. Thus planning, if undertaken in a balanced and an integrated approach, is capable of providing solutions to a majority of contemporary social, economic, institutional and ecological problems (Gleeson 2003; Friedmann 2005).

Although there is widespread acknowledgement of the potential of planning in enhancing wellbeing, the rate of success in delivering real-time practical outcomes has been rather limited. The latter has primarily been due to the presence of a variety of planning theories that have prevailed independent of each other. Hall (1983, p.41) acknowledges that since 1950s:

> the young art or science of planning has been beset by series of intellectual revolutions. Its underlying ethos has been inverted: from a comfortable top-down, hierarchical system in which the wisdom of the professional expert went unchallenged, into a strongly democratic, egalitarian, bottom-up system.

These numerous revolutions have resulted in a broad assembly of fundamental planning models: Synoptic (or the rational comprehensive approach), Incremental, Transactive, Advocacy and Radical. Lane (2005) provides an extensive historical account of various planning models that have evolved since the early 1900s. According to him, planning may be conceptualised across three main schools of thought – blueprint, synoptic and theoretical pluralism. These planning theories are discussed below in detail. However, before describing various planning models, a critical issue impeding successful planning needs to be addressed.

Despite the presence of several planning theories and models, final plans have often suffered from weak internal integration between diverse themes and approaches that are part of the larger planning practice (Friedmann 1997; Forester 1999). Hudson (1979) confirms lack of interaction between various planning dimensions by suggesting that most planning theories in the past have been applied in isolation with others and have therefore, produced only marginal success. As a redress, he proposes the SITAR approach that provides an enabling environment for various planning theories to co-exist in a synergistic manner.[2] According to him, these theories when applied in a complementary relationship with each other may result in greater flexibility – one that contributes to enhancing the positives of each while ignoring the bottlenecks (Hudson 1979).

Furthermore, the planning process in itself calls for a reform that better highlights the *need* for a holistic planning framework in increasing cross-sectoral understanding and multidisciplinarity between various planning schools (Hudson 1979; Casella 1993; Scanlan and Gillen 2004). Considering these observations, Hudson's (1979, p.396) argument made approximately two decades back still holds true:

> Having planners with the ability to mix approaches is the only way to assure that they can respond with sensitivity to the diversity of problems and settings confronted, and to the complexity of any given situation.

4.1.1   Blueprint planning

This was the earliest form of decisive planning in which the role of the planner – and therefore, her assumptions – was central to the entire planning exercise. Public consent was rather limited to either a complete acceptance of the plan or its rejection. This planning model assumed that there was a desired fixed end-state and the immediate aim, according to the planners of this time, was to achieve the final (fixed) state through their self-controlled analysis and plan development. As Lane (2005, p.289) asserts, 'At its heart, blueprint planning assumes science to be all seeing and the planner omnipotent.' In totality, while the idea behind blueprint planning was to establish a healthy relationship between the environment, economy and society, it however, failed to achieve the

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[2] The SITAR approach brings together Synoptic, Incremental, Transactive, Advocacy and Radical models to deliver improved planning efficiencies.

desired result for two main reasons. One, it excluded public from being an important part of the process of change, and two, its supporters oversimplified existing complexities and context-related diversities prevailing in the world, thereby rendering the whole concept of planning pragmatically futile (Hall 1983; Lane 2005). As a result, a more rational approach to planning was needed that would deal with the shortcomings associated with the blueprint approach.

4.1.2   Synoptic planning

The Synoptic approach is the most elementary model among contemporary planning approaches. Also known as the 'rational comprehensive approach', the idea applied in this form of planning is essentially technocratic (Hudson 1979; Alexander 2001; Sager 2001). It involves the establishment of a desired objective, consideration of various possible alternatives to achieve the objective, evaluation of all possible means to reach the end and finally implementing the most suitable decision (Healey 1997).

The synoptic approach to planning considers society as a body of actors with similar interests thus associating planning with having a 'consensual, rather than conflictual societal image' (Lane, 2005, p.290). It encourages limited inclusion of relevant public in the planning process; although far from being satisfactory, it is nevertheless considered an improvement over the previous blueprint model of planning. The public is consulted only during the process of finalising the planning goals with virtually no consideration to their views during the actual process of implementation (Hudson 1979; Lane 2005).

In general, planning is conducted sequentially through its various stages; relies heavily on the use of technical language and includes elements of positivism and instrumental rationality (Healey, 1997). 'The emphasis in synoptic planning is on efficiency and not on reliability.' (Sager, 2001, p.526) This results in weak evaluation and monitoring approaches. Limited scope for social involvement and lack of a 'personal touch' in the synoptic planning process has therefore, called for other innovative forms of planning.

4.1.3   Incremental planning

Incremental planning deals with the idea of 'muddling through' by making suitable choices from a limited number of alternatives and using a continuous feedback process to update and adjust policy objectives (Hudson 1979; Lane 2005). Suggested by Charles Lindblom, this approach acknowledges that:

> potentially damaging uncertainty is likely to remain despite expert analysis. So this mode is not expert orientated … Thus, the distribution of information is less biased … [and] uncertainty is reduced by choosing policies close to the status quo (Sager, 2001, p.526).

Incremental planning approach takes into consideration views from all possible actors existing both within and outside the immediate planning body (Sager 2001; Lane 2005). This feature, in particular, provides the much needed scope for planning from a wider horizon through addressing 'a plurality of interests rather than a unitary interest [of the policymakers]' (Lane 2005, p.291). The incremental style stimulates consultations across a wide range of participants, thereby enhancing the practical viability and the reliability of the planning exercise (Stiftel 2000). The latter, in turn, provides a 'more open access to the agenda-formation process than in synoptic planning' (Sager 2001, p.526).

4.1.4   Transactive planning

The planning models discussed above have suffered from issues of practical viability to varying degrees (Alexander 2001; Sager 2001). Given unavoidable political realities and socio-economic diversities combined with the presence of power and authority, it was observed that 'planners were seldom able to achieve their objective, scientific aspirations. Their claims to comprehensiveness were not backed up by reality' (Stiftel 2000, p.7). Following such arguments, it was believed that increased emphasis on public involvement would help in dealing with the shortcomings of the above models. To this extent, the transactive planning model addresses the issue of actor involvement by keeping the planning community at the centre of all discussions.

According to this approach, knowledge is best utilised when it produces action that contributes towards meeting the needs of the concerned sections of the society. The primary tenet of transactive planning is mutual learning through direct contact with actors who are affected by the implementation of plans (Hudson 1979; Lane 2005). In other words, the transactive approach facilitates a 'face-to-face exchange of the expert knowledge of the planners and the experiential knowledge of the local citizens' (Sager 2001, p.511). To encourage mutual learning, transactive model delegates planning responsibilities to people, thereby empowering them to remain involved throughout the process. Under the transactive scheme thus

> plans are evaluated not merely in terms of what they do for people through delivery of goods and services, but in terms of the plans' effect on people – on their dignity and sense of effectiveness, their values and behaviour, their capacity for growth through co-operation, their spirit of generosity (Hudson, 1979, p.389).

Friedman (1993) prefers to call this approach a non-Euclidian way of planning. He suggests five pre-requisites which, if incorporated, will make any planning process not only effective but also efficient. Planning, according to him, should be: a) Normative, b) Political, c) Transactive, d) Innovative, and e) based on social learning. The transactive approach, he asserts, is 'less a way of preparing documents, such as analyses and plans, and more a way of bringing planning knowledge and practice to bear directly on the action itself … face-to-face interaction in real time is the [key]' (Friedmann 1993, p.482). Despite its strong focus on actor inclusion in the planning process, the interplay between power relations and self-interest agendas often interferes with the model's smooth application in real-time (Briassoulis 1989; Sager 2001). As a result, the role and involvement of socio-economically disadvantaged groups remains limited in the process of power-sharing and subsequent decision making. Advocacy planning, discussed below, addresses this problem effectively.

4.1.5   Advocacy planning

This mode of planning, as the name suggests, advocates for the disadvantaged sections of the society. It therefore, calls for greater equality in power distribution and resource use between various social groups. Social justice and a two-way communicative interaction between the society

and judiciary are the basic constituents of advocacy planning (Hudson 1979). According to Stiftel (2000, p.8), the primary objective of the advocate planner is to recommend actions that are 'in the coin of the public interest'. Advocacy planning thus delivers plans that take into consideration demands of groups that are socio-economically and institutionally weaker than others (Hudson 1979; Sager 2001). While power relations continue to influence this approach too, it nevertheless accentuates the need to appreciate heterogeneity that currently exists in the form of multiple actor interests within the society. In doing so, it demands for consideration to moral and ethical ideas of fairness, justice, empowerment and equity (Sager 2001; Lane 2005).

4.1.6   Radical planning

Critics of advocacy planning called for a more radical approach to plan making and implementation (Stiftel 2000). Structural progressive changes have since been included in plan-making to encourage decentralisation, female empowerment, and ecological preservation, among others. In essence, radical approach is a relatively complex form of planning mainly due to the presence of two parallel streams of thought embedded into a single model. While one thought calls for spontaneous collective action to result in immediate positive changes, the other thought process prefers to

> focus less on ad-hoc problem solving through resurrected community, and more on the theory of the state, which is seen to permeate the character of social and economic life at all levels, and in turn determines the structure and evolution of social problems (Hudson 1979, p.390).

The latter requires an extensive analysis of the theoretical context that surrounds the issue being addressed. Radical approach therefore, attempts to understand the planning process in its entirety by focusing equally and simultaneously on both the substance as well as the process-related details of the problem at hand (Hudson 1979; Stiftel 2000). Despite these objectives, radical planning fails to initiate any substantive change mainly because it ignores the possibility of combining expert-led technical knowledge with social learning theories. Besides, the element of interdependence – crucial for positive planning outcomes – is either totally absent or exists only marginally in the radical planning model (Alexander 2001).

The discussion above has argued that none of the planning approaches developed so far are perfect if applied in isolation with others. In such circumstances therefore, Hudson's SITAR approach (explained earlier) and the communicative or collaborative planning models are of particular interest.[3] Each recommends combining principles across several planning models to deliver positive results by utilising the benefits of all approaches while ignoring individual shortcomings (Friedmann 1997; Forester 1999; Stiftel 2000; Sager 2001).

4.2 PLANNING AND SUSTAINABILITY: EXPLORING THE RELATIONSHIP

> In the light of [sustainability], it is becoming more and more urgent not to limit one's attention to the spatial dimension of people-environment relations … one cannot understand the architecture and spatial layout of a built environment, from domestic space to urban structure, without referring to the precepts underlying their design. Nor can we understand the natural environment without reference to the different social, economic and political systems and ideologies that inform them … Achieving sustainable cities requires strong civic cultures and a new politics of cohesion and collaboration. This is without any doubt a long-term process (Moser 2003, p.4).

The above aptly summarises the nature of the concept of sustainability developed previously in Chapters Two and Three. The literature considers planning an essential tool in conceptualising and operationalising sustainability, given its diverse set of underlying ambiguities (Beatley and Manning 1997; Kenny and Meadowcroft 1999; Redclift 1999a; Berke and Conroy 2000; Gleeson 2003; Wheeler 2004; Friedmann 2005). As mentioned earlier, planning and sustainability are extremely complex phenomena as both concepts spread across a wide range of disciplines and concern people with different social, economic, cultural and political backgrounds. Both therefore, are multidisciplinary concepts. The latter makes consensus building a difficult exercise for planners and sustainability researchers alike.

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[3] Collaborative or communicative planning 'extends the reasoning process beyond instrumental rationality, to allow debate on moral and emotive dimensions … by shaping it pragmatically to the social relations and political possibilities of particular situations … [and by developing] an inclusionary communicative ethic [that allows] both voice and influence to be more evenly distributed among those with a stake in issues than is common in most [contemporary] strategic planning exercises' (Healey 1997, p.282).

Furthermore, besides being complex in nature, planning and sustainability are complementary to each other's existence (Jepson 2001). A planning process may not be effective unless each element within the system as well as outside it is sustainable in its own right. Likewise, the transition to sustainability is improbable in the absence of a proper plan that enhances life supporting qualities of the earth including its ecological, social, political and economic institutions (Redclift 1999a). In order to better understand and operationalise sustainability, it is therefore, of paramount importance to appreciate the many ways in which planning can expedite the process of achieving sustainability.

There is evidence that although several attempts have been made to coordinate planning efforts with sustainability objectives through a multitude of instruments – e.g. environmental impact assessment, strategic environmental assessment, mixed land use development, pollution control checks, compact city planning etc. – the rate of success has not been consistent enough to deliver long-term positive outcomes (Shaw and Kidd 1996; Friedmann 2005). The purpose of this section is not to discuss what theories and models have been suggested to encourage sustainability in urban and rural planning processes for they are too numerous to be detailed in a brief chapter like this. The idea rather is to explore the rationale behind why at all any link between planning and sustainability needs to be established. In other words, the discussion below attempts to comprehend what, in the current scenario, brings planning and sustainability together and why.

Several scholars have discussed the interplay between planning and sustainability (McDonald 1996; Jepson 2001, 2004; Brindley 2003; Gleeson 2003). At the time of the 1992 Rio conference, it was acknowledged that in the presence of poor implementation guidelines and weak planning principles, sustainability, even if achieved, would be both ineffective and short-lived. It was primarily a result of this awareness that Agenda 21 was formulated as a first-of-its-kind action strategy to encourage the transformation of theoretical plans into practical outcomes (O'Riordian and Voisey 1998b; Elliott 1999). The role of planning in achieving sustainability is further supported by McDonald (1996), who argues that the diverse set of objectives, strategies, techniques and implementation procedures of planning are all important means to reach the desired end-state of sustainability. He suggests that:

> responding to the challenge of sustainable development has very important theoretical, technical, and practical relevance for

> planners, whether it be reviewing the ethics and norms of
> planning, the objectives of plans, research priorities, planning
> techniques, or designing programs for planners (McDonald 1996,
> p.225).

Furthermore, Meppem and Gill (1998) strengthen the relationship between planning and sustainability by focusing on the feature of transdisciplinarity that is fundamental to both concepts. They recommend achieving sustainability through developing an epistemology based on transdisciplinary principles. The latter, as argued by them, is possible by undertaking planning that generates emphasis

> on process and collectively considered, context-related progress
> … [planners and policymakers thereby] facilitate learning and
> seek leverage points with which to direct progress towards
> integrated economic, ecological and socio-cultural approaches for
> all human activity (Meppem and Gill 1998, p.134).

On a different note, the planning–sustainability nexus is examined by Jepson (2001) who presents a compelling account of how the two concepts are mutually integrated. He provides several reasons for this connection. Both planning and sustainability are concerned with 'forward thinking' in theory as well as in practice (Cussen 2000; Minnery 2000; Scanlan and Gillen 2004). Both concepts seek integration – across disciplines, actors, values and institutions – for thorough implementation. Besides, Jepson argues that in the context of sustainability effective planning comes across as 'a framework that integrates the natural and the social sciences, one that relates societal conditions with the condition of the natural environment' (Jepson 2001, p.506). The direct relevance of planning in achieving sustainability thus further increases the fundamental dynamics between the two concepts, thereby making them mutually reinforcing.

Jepson (2004) places planners at the centre of the sustainability debate. Poor effectiveness in achieving sustainability, according to him, is a result of two different and often contradictory contemporary planning visions – the *ecological* and the *expansionist* views. He argues that a carefully examined planning approach may bring these two views onto a common platform, thereby facilitating holistic sustainability and resolving the challenges surrounding its operationalisation. Jepson's work thus promotes the underlying relationship between planning and sustainability to yet another level.

To address a more practical understanding of the relationship between planning and sustainability, Berke (2002) develops a strategic set of three chief dimensions of sustainability – reproduction; balance between environmental, economic and social values; and a link between local and global problems. He argues that a clear representation of these dimensions in planning procedures would result in enhancing the chances of achieving holistic sustainability. The underlying logic behind Berke's theory therefore, is to recognise – and embrace – a mutually supportive association between comprehensive planning and sustainability (Berke 2002).

Another engaging piece of work is produced by Sandercock (2004, p.140) who demands changes in contemporary planning styles if 'the planning profession is to confront the challenges posed by … the 21st century'. Although her essay does not explicitly relate planning with holistic sustainability, she nevertheless touches upon some important principles of global wellbeing that are fundamental to the concept of sustainability. In doing so, she calls for a socio-institutional reform process that could, in turn, support planning by maintaining 'coexistence in the shared spaces of cities and neighbourhoods in such a way as to enrich human life and to work for social, cultural and environmental justice' (Sandercock 2004, p.134). According to her, planners need to develop political, audacious, creative and therapeutic characteristics in their working styles to deal with the stimulating issues of ecological, social and economic sustainabilities. Her work therefore, makes significant contribution towards widening the horizon of planning discourse and the planners thereof.

The importance of planning potential in managing long-term sustainable development is also highlighted by Healey and Shaw (1993). According to them, 'A radical version of sustainable development strategies will only be achieved if its concepts and criteria become entrenched in the routine politics, policies and practices of the planning system' (Healey and Shaw 1993, p.775). They argue that effective formulation of development plans encourages systematic coordination between the social, environmental and economic issues and it is this coordination which they claim as the key to achieving holistic sustainability. Besides, the authors acknowledge the increasing interaction between planning and sustainability:

> It is this concept [of sustainability] which government in theory has embraced, and which the planning profession is rapidly absorbing … [it] offers a new approach to planning; the challenge of

> integrating and relating one to another the economic, social and
> physical dimensions of human existence (Healey and Shaw 1993,
> p.772).

Their work thus underpins the association between the intricate nuances of planning and sustainability, thereby promoting the criticality of one concept in strengthening the chances of a long-lasting establishment of the other.

A similar relationship between planning and sustainability is suggested by Beatley and Brower (1993). They suggest that sustainability is a 'principle to live – and plan – by'. To this extent, their idea of 'sustainable community' brings together planning and sustainability on a practical level. According to them, extensive planning for such communities delivers qualities that are fundamental to achieving sustainability (Beatley and Brower 1993). On the one hand, sustainable communities acknowledge ecological limits by restricting the consumption of natural resources and limiting resultant environmental pollution. On the other hand, they promote feelings of belongingness, safety, democracy, cultural diversity and social justice. Beatley and Brower's (1993) focus on sustainable community therefore, evokes two main thoughts with regard to the interplay between planning and sustainability. One, sustainable communities produce a direct representation of sustainability as a concept and its underlying principles. Two, the creation of sustainable communities requires efficient planning insofar as

> Sustainable communities can no longer treat land use, the
> environment, housing, transportation, social services, and safety
> as isolated issues. Rather, they will be viewed as overlapping
> issues that require integrated strategies (Beatley and Brower
> 1993, p.16).

Furthermore, the recent concept of 'smart growth' explores the association between planning and sustainability. In essence, smart growth is a proactive planning technique that aims to simultaneously achieve 'environmental protection, economic vitality, social equity, and a high quality of life' (Lorentz and Shaw 2000, p.5). Smart growth therefore, argues that striking a balance between the social, economic and environmental demands requires a planning initiative that stretches itself beyond the tenets of conventional planning ideologies to one that treats the larger society and its economic and ecological connections in a unified association (Lorentz and Shaw 2000). In the process of bringing together planning and sustainability, smart growth has also encouraged a move away from the conventional top-down planning approach towards a more

decentralised institutional governance structure. The latter has enhanced flexibility within several regions to make the transition to holistic sustainability (Lorentz and Shaw 2000; Wheeler 2004).

Besides, the literature suggests various characteristics that plans may contain in order to expedite the process of achieving sustainability. Some of these qualities are: extensive participation (of both directly and indirectly affected actors), enhanced political support, resource availability, and the inclusion of sustainability as a guiding principle in the development of plans (Conroy and Berke 2004). Apart from these fundamental qualities, there is also a growing demand for planners to highlight themselves as informed promoters of holistic wellbeing within the environmental, economic and social groups (Rees 1995; Campbell 1996). Rees (1995, p.356) argues that planners

> have an unprecedented opportunity to practice their procedural skills as educators, facilitators, and as mediators between politicians and citizens in shaping the sustainability agenda … how successfully planners communicate the message of sustainability is crucial to the success of any scenario.

In similar vein, Campbell (1996) believes that planners have an influential role in determining and resolving the interactive as well as conflicting relationships between the three primary dimensions of sustainability.

As a concluding observation, there is a large range of literature that brings planning and sustainability closer together. An increasing number of planners are keen on incorporating sustainability principles into their planning agendas. The discussion above has established that planning is an indispensable component in the process of sustainability operationalisation. As Berke and Conroy argue, 'Planners clearly have a critical role to play in promoting the dialogue about sustainability and in conceiving concrete public policy solutions that promote community sustainability' (Berke and Conroy 2000, p.30). The evolution of new concepts like smart growth and sustainable community draws together principles of effective planning and holistic sustainability, thereby encouraging harmony with nature, responsible governance, socio-economic equity and livable built environments.

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4.3 PLANNING EVALUATION AND SUSTAINABILITY

So far, the chapter has established that effective planning is a key to operationalising sustainability. However, to achieve holistic sustainability this understanding alone is insufficient. It requires to be combined with a mechanism of evaluation of the planning process in order to ensure logical coherence between planning ideals and sustainability objectives (Berke and Conroy 2000; Alexander 2002). The task therefore, is to develop an evaluative framework that can be applied to assess the pragmatic effectiveness of contemporary plans in promoting sustainability.

Planning evaluation is crucial for several reasons (Talen 1996a; Berke and Conroy 2000; Alexander 2002; Scanlan and Gillen 2004). It is a powerful means to bring theory and practice closer by understanding 'what' has gone wrong, 'where', 'why' and 'how' improvements may be made throughout the planning process. Besides, the analysis and evaluation of plans is also crucial to better examine whether the inability to generate positive outcomes 'is a result of failed implementation or failed policy. Systematic failure to meet the goals of our plans may indicate that we're pursuing the wrong goals' (Talen 1996b, p.259). Evaluation thus is an intrinsic part of planning in that it not only enhances knowledge regarding the existing dilemmas but also widens our intellectual capacities for improved plan-making and execution across a range of related discourses.

In light of these observations, evaluation is considered one of the most important aspects of planning. Yet, it is also one of the least developed topics in global planning discourse (Talen 1996b; Forester 1999; Alexander 2002; Laurian, Day, Berke *et al*. 2004; Scanlan and Gillen 2004). Although there is an increasing demand for plan evaluation, monitoring and assessment, it is rather improbable to deliver a blueprint model or evaluative framework that maintains universal applicability – given diverse challenges underlying the concept of planning (Friedmann 1997, 2005; Sager 2001; Alexander 2002). Under these circumstances, a possible solution is to establish a set of guidelines that can be subsequently adapted to specific socio-institutional contexts to deliver practical evaluative criteria. As Alexander (2002, p.208) argues, 'Institutionalizing and operationalizing these criteria requires their adaptation to the specifics of their settings … [to] the legal, cultural, political and organizational context of each [system] concerned'. According to Baer

(1997), the final criteria may be qualitative or quantitative in nature and may contain both positive and negative elements in terms of what an ideal plan must contain and what it must not.

The process of plan evaluation has two main constituents – procedural or process-related, and substantive (McDonald 1996; Alexander 2002; Berke 2002; Persson 2004). Equal focus on the plan's process and substance is therefore, vital for its efficient development and implementation. Both are complementary to each other; developing one while neglecting the other would jeopardise the plan's overall performance in achieving its desired objectives. On a similar note, Talen (1996b) argues that planning substance and planning procedure are inseparable entities but their direct relationship can only be explored through a rigorous evaluation process. In particular, she emphasises the importance of post-implementation evaluation (Talen 1996a). The latter, according to her, may inform a great deal about how planning works and what an effective plan should ideally be made of. While the process evaluation may use a combination of guidelines that draws together the plan's context, actual development process and primary implementation outcomes (Driesche and Lane 2002), the substantive evaluation, on the other hand, assesses the theoretical and fundamental substance of the plan in question (Talen 1996b).

As a final observation, the process of plan evaluation is challenging for two primary reasons. Firstly, the establishment of evaluative criteria to gauge the effectiveness of a plan in achieving its objectives is at best a guiding tool. Contextual differences in institutional, environmental, economic or socio-cultural settings demand that different regions develop different – often contrasting – suites of criteria for similar planning issues and dilemmas. Secondly, and more importantly, planning as a profession is essentially multidisciplinary in nature (Talen 1996b; Meppem and Gill 1998; Wheeler 2004; Friedmann 2005). The planning regime therefore, contains multiple cause and effect relationships which further accentuate the complexity underlying planning and its evaluation.

4.4 EVALUATIVE CRITERIA FOR SUSTAINABILITY

Considering the arguments made so far in the thesis regarding the complexity associated with conceptualising planning and sustainability, developing a set of criteria that will at once suggest the

effectiveness of the planning exercise in its entirety as well as its contribution towards achieving sustainability is therefore, a difficult task (Becker and Jahn 1999; Berke and Conroy 2000; Scanlan and Gillen 2004; Wheeler 2004). This section draws together sustainability elements and principles discussed in the previous two chapters to develop a comprehensive guiding tool (a list of evaluative criteria) that may be applied to evaluate the efficacy of existing planning pathways in enabling the transition to holistic sustainability. The development of these criteria is based on the premise that plan evaluation requires amalgamation of two types of elements: *process-related*, which consider the 'process' followed during the planning exercise; and *substantive*, that are based on the 'contents 'of the plan.

4.4.1   Substantive criteria

Sustainability has often been referred to as bringing together the 'three Es' – economy, equity and the environment. Equity, more specifically, refers to a balanced interplay between politics and society (Jepson 2001; Wheeler 2004).

> In essence, the emerging sustainability doctrine holds that the natural environment can be protected, the economy developed, and equity achieved all at the same time and that the extent to which we are successful in this simultaneous achievement is the extent to which we will achieve sustainability (Jepson 2001, p.503).

Several other scholarships argue similarly in favour of four fundamental constituents of holistic sustainability – social (and cultural), ecological, economic, and institutional (McDonald 1996; Becker and Jahn 1999; Redclift 1999a; Sachs 1999; Jepson 2004). To develop a plan that successfully addresses the concept of sustainability, equal emphasis on each of these constituents is therefore, essential.

Table 4.1 below enlists primary substantive criteria that may be used to evaluate the efficacy of a sustainability plan. Each criterion addresses the socio-cultural, ecological, economic and institutional dimensions of sustainability on an individual basis; when considered in entirety however, they promote holistic sustainability (McDonald 1996; Sachs 1999; Bagheri and Hjorth 2007). The list does not attempt to limit our knowledge and understanding of sustainability as it

acknowledges that '[sustainability] is a holistic term which represents a way of thinking, and as such it is not particularly amenable to precise and rigorous definition or to clearly prescribed actions on the ground' (Shaw and Kidd 1996, p.237). On the contrary, the list is an indicative effort to include those components of sustainability which have so far been suggested by the literature as indispensable to its holistic understanding.

Table 4.1: Substantive criteria for evaluating sustainability planning

	Criteria	Indicators
1	Social and Cultural	Social equity; gender equality; equal access to natural resources; delivery of basic human needs and services; degree of social security; adherence to cultural (traditional) practices; and cultural heritage.
2	Ecological	Efficient use of resources (renewable and non-renewable); energy – research and development on renewable and substitution of non-renewable sources; reduction of wasteful consumption; high ecological quality (regular checks on air, water, land and sound pollution); and protection of biodiversity (respect for survival of all flora and fauna).
3	Economic	Employment; equitable distribution of wealth; focus on local/indigenous and traditional knowledge for economic development; research and innovation; and deployment of scientific tools and technology.
4	Institutional	Effective governance; social cohesion; protection of labour and human rights; support from government across all levels to promote social, ecological and economic sustainability indicators mentioned above; North-South international cooperation; fair trade; promotion of peace; and provision of help and support in emergency (during wars and natural disasters).

4.4.2   Process criteria

While it is important for plans that aim to operationalise sustainability to ensure that socio-cultural, ecological, economic and institutional aspects are considered simultaneously, the latter alone is insufficient in the absence of a clear focus on the planning process itself. The development of a set of 'process' criteria to assess the planning efficacy is therefore, essential (McDonald 1996).

However, the literature discussing the role of planning 'process' in operationalising sustainability is limited (McDonald 1996; Alexander 2002; Bagheri and Hjorth 2007). Table 4.2 below addresses this gap by suggesting criteria that focus on different aspects of the planning process.

As mentioned previously, the entire process of planning is interpreted and carried out by people with different mindsets and backgrounds (Baum 2001). The latter, in turn, bring along diverse, often conflicting, opinions, theories and practices in the course of plan development and execution. The criteria – derived from the study of a wide range of multidisciplinary literature – presented below acknowledge these observations and therefore, do not intend to be exhaustive. Instead, they attempt to highlight elements that are central both to the planning process as well as to the functional composition of the plan. The list does not follow any set hierarchy; each criterion contributes in its own right to the plan's overall efficiency in achieving sustainability.

In summary, the two tables developed here bring together a combination of substantive and process planning criteria, which may be used to evaluate the efficacy of contemporary plans in achieving sustainability. These criteria form the fundamental theoretical framework that has guided this research. Since sustainability is a continuously evolving process, local – and global – conditions and priorities may be expected to change in due course of time. This would then also affect the choice of criteria. In the present scenario however, the suites of substantive and process criteria presented here propose the most essential characteristics of planning without which the development of a new sustainability paradigm may be both ineffective and short-lived. By including both process and substantive criteria in planning for sustainability, the research supports Beatley's (1995, p.384) argument in favour of a planning mechanism that 'reorganize[s] the social, physical and political-economic landscape in very fundamental ways'. It is expected that this list of criteria will thus enable researchers and practitioners in the field of planning and sustainability to measure progress against desired outcomes by focusing on current planning pathways including, *inter alia*, their contents, development and execution.

Table 4.2: Process criteria for evaluating sustainability planning

	Criteria	Supporting literature sources
1	Reference to local socio-economic and institutional contexts[4]	(Forester 1982; Bryson, Bromiley and Jung 1990; Baer 1997; Sager 2001; Driesche and Lane 2002; Friedmann 2005)
2	Degree of consistency between local, regional and national plans; multiple planning scales	(Neuman 1998; Friedmann 2005)
3	Horizontal as well as vertical sectoral integration	(McDonald 1996; Baer 1997)
4	Pluralistic scope of plan (degree to which multidisciplinarity is practiced)	(Talen 1996a, 1996b; Neuman 1998; Redclift 1999a; Friedmann 2005)
5	Degree of consensus building through communicative action	(Briassoulis 1989; Beatley and Manning 1997; Healey 1997; Forester 1999; Alexander 2001; Berke 2002; Driesche and Lane 2002; Jepson 2004; Friedmann 2005)
6	Comprehensive agenda for plan implementation with strategic focus	(Friedmann 2005)
7	Support from government	(Briassoulis 1989; Friedmann 2005)
8	Scope for evaluation of plan implementation and incorporation of feedback (degree of plan's adaptability to changes)	(McDonald 1996; Talen 1996a, 1996b; Scanlan and Gillen 2004)
9	Degree of accountability and transparency of decisions made	(Driesche and Lane 2002)
10	Degree of public participation and involvement of relevant actors	(Blowers 1992; McDonald 1996; Baer 1997; Baum 2001; Driesche and Lane 2002; Friedmann 2005; Bagheri and Hjorth 2007)
11	Temporal span of decisions made	(Baer 1997)
12	Degree of inclusion of local knowledge during the preparation and implementation of the plan	(Driesche and Lane 2002; Friedmann 2005)
13	Extent of research undertaken (before beginning the actual plan implementation); degree of feasibility and practicality[5]	(Baum 2001)
14	Degree to which planning promotes value addition to existing knowledge	(Baer 1997)

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[4] According to Bryson, Bromiley and Jung (1990, p.183), 'The planning process must be tailored to the particular context within which the changes must be pursued in order to achieve desired outcomes'.

[5] Research helps in 'realistically setting goals, designing strategies leading to them, and identifying resources to implement strategies' (Baum, 2001, p.149).

CONCLUSION

This chapter has argued that planning, like sustainability, is a constantly evolving concept that transcends a wide range of disciplines and a variety of conflicting issues. It is therefore, challenging to develop an understanding of planning that is universally accepted and applicable. Besides, the discussion has highlighted the importance of planning in achieving sustainability. In doing so, it has presented various arguments that explore the existing relationship between planning and sustainability. One of the most important realisations is that of interdependence between the two concepts. The chapter has shown how both are mutually reinforcing and that comprehensive planning positively affects the process of achieving sustainability and vice versa.

The discussion has suggested that simply exploring the relationship between planning and sustainability is not enough. The evaluation of plan's efficacy in operationalising sustainability is particularly important. In this regard, the discussion has argued in favour of two different but equally important planning aspects – plan 'substance' and plan 'process'. While the substantive criteria relate to the contents of the plan, the procedural ones refer to the process of planning including, *inter alia*, plan development, implementation, execution and evaluation. The chapter has produced a combination of essential substantive and process criteria which may be used to evaluate the efficacy of current planning pathways in achieving sustainability.

This chapter marks the end of the literature study. The next chapter presents a detailed account of the material and methods that have been used during the course of this research.

CHAPTER FIVE

RESEARCH METHODS AND DESIGN

INTRODUCTION

This study seeks to understand the process of planning for achieving holistic sustainability. Accordingly, the research has been framed around two main questions: *How effective are contemporary approaches to planning for sustainability;* and *how do planning efforts differ between developing and developed regions, considering the inherent differences between their socio-economic, institutional and environmental settings?* This chapter outlines the methodology developed to seek answers to these questions. It begins with suggesting primary reasons for choosing the case study research strategy. The chapter then puts forward the epistemological and methodological approach adopted, followed by a discussion on the types of methods used to collect relevant data from the field study. Finally, the chapter addresses measures undertaken to ensure a high degree of rigour throughout the research.

5.1 RESEARCH DESIGN AND STRATEGY

Chapter Two suggested that sustainability was a constantly evolving concept that was prone to varied conceptualisations across different regions and contexts. It also established that developing a consensual understanding of sustainability was a challenging process where the challenge was further accentuated due to the lack of a blueprint for sustainability and its planning practices. Considering the combination of ambiguity and dynamism associated with the concept of sustainability and the questions which the current research aimed to answer, research strategies like experimentation, archival analysis, survey or historical study did not seem promising. To deal with an issue as complex as the evaluation of the contemporary sustainability planning processes, a case study strategy was adopted based on its distinct advantages over the other strategies mentioned above.

According to Yin (2003, p.1), a case study is the most suitable research strategy 'when 'how' or 'why' questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context'. Chapter One has established that the main focus of the present research has been on the 'how' and 'why' rather than the 'what' aspects of the sustainability process. As a result, case study was considered an obvious choice as a research strategy.

A case study strategy helped in preparing a comprehensive research design for an in-depth empirical inquiry of relationships and processes using multiple methods of data collection (Haigh 2000). The design (see figure 5.1) guided the entire research from the formulation of the research question (by an extensive study of the literature) to the actual field work (using evaluative criteria developed during the literature review process) to the final 'analytic' and theoretical generalisation (based on data analysis and proposed answers to the research questions).

Figure 5.1 Simplified research design
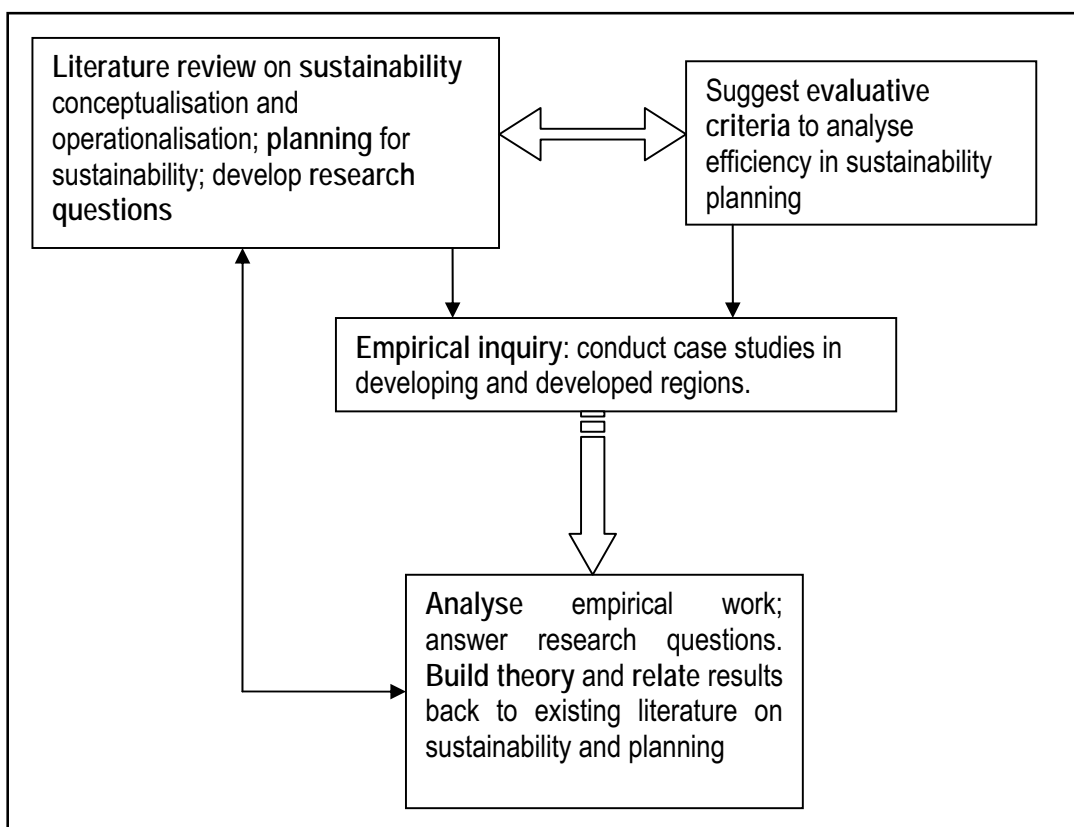
The existing body of knowledge on sustainability suggests that it is theoretically and pragmatically unrealistic to arrive at an all-encompassing conceptualisation of sustainability (Moffatt 1996). Since the approaches to sustainability operationalisation differ significantly across both physical and non-physical boundaries, it was considered essential to explore sustainability from a holistic perspective. Therefore, to provide a sharper insight into the spectrum of similarities and contradictions underlying the notion of sustainability and its planning, case study was considered the most suitable research strategy.

Furthermore, operationalising sustainability is considered a problematic issue for two main reasons. One, there is a lack of a clearly defined understanding of sustainability. Two, the simultaneous existence of political, socio-cultural, economic and environmental priorities and their ensuing interaction further challenges a smooth development of sustainability planning guidelines. As a result, the present research on sustainability was essentially multidisciplinary – and therefore, complex – in nature. In light of these observations, the use of a case study research strategy was considered most appropriate as it could be employed to explain, explore, describe and evaluate several aspects of the process of sustainability operationalisation succinctly (Yin 2003).

In addition to the issue of multidisciplinarity in the study of sustainability planning process, the literature also suggested that the implied meanings of sustainability were interpreted differently by different people, groups and organisations. As a result, even if it were possible to suggest a set of criteria for effective planning for sustainability, its application would differ across different contexts. Consequently, the understanding of sustainability or its planning could not be circumscribed by a generalised principle. In such a case, the researcher believed that it was only possible to achieve a theoretical understanding of sustainability and its operationalisation, which could then be suitably adapted according to contextual priorities across different regions in the world. Considering thus the need to provide an 'analytic generalisation', case study was considered the most suitable strategy for the present research. In other words, the idea was to contribute to the development of scientific knowledge by using, 'the force of example' (Flyvbjerg 2006, p.228).

While the researcher was confident that a qualitative case study was the most appropriate strategy for the present research, she also duly acknowledged that the rigour of the entire research was

substantially dependent upon the degree of precision achieved in the two case studies. The following section describes the logic that contributed to the evolution of the study from epistemological and methodological standpoints. Considering that the empirical inquiry collected data using more than one method, the researcher believes that the declaration of her own social and academic relations would enhance the rigour associated with the final results of the research.

5.2 EPISTEMOLOGICAL AND METHODOLOGICAL LOGIC

A high quality case study research must have a well established epistemological and theoretical foundation (Tobin and Begley 2004). This foundation, in turn, has direct linkages with two important aspects of any research: researcher's self-reflexivity and the context and social relations in which the research is situated.

> [Reflexivity] is a conscious experiencing of the self as both inquirer and respondent, as teacher and learner, as the one coming to know the self within the process of research itself … [it] demands that the interrogating each of our selves regarding the ways in which research efforts are shaped and staged around the binaries, contradictions, and paradoxes that form our own lives. We must question ourselves, too, regarding how those binaries and paradoxes shape not only the identity scored forth in the field and later in the discovery processes of writing, but also our interactions with respondents, in who we become to them in the process of *becoming* to ourselves (Guba and Lincoln 2005, p.210).

As part of appreciating the importance of self-reflexivity in good research, the current research design recognises the fact that the researcher's background – social, political and cultural – might have influenced the conduct of this study on more than one occasion. It is pertinent therefore, to acknowledge at this stage that the researcher is a young Indian female and her research interests are situated in the fields of sustainability, planning and North-South global imbalance. The researcher thus appreciates that it may not be possible to overlook the role played by her past social background and academic knowledge in developing a critical outlook towards the study (Baxter and Eyles 1997).

Apart from recognising her personal ethnocentric and academic background, the researcher has also considered knowledge as being socially constructed and constantly varying and evolving (Golafshani 2003; Guba and Lincoln 2005). As a result, the researcher has attempted to recognise the multiple epistemologies associated with the same issue; the differences arising owing to varied human practices, interactions and existing knowledges (Baxter and Eyles 1997). With respect to conceptualising sustainability, this recognition has been particularly helpful in enabling the researcher to explore diverse and often conflicting perceptions from a much deeper perspective than was anticipated at the start of this research. The researcher has aimed to approach the study from an *'antifoundational'* and therefore, a more pluralistic viewpoint (Tobin and Begley 2004), thereby rejecting the principle of 'any permanent, unvarying (or 'foundational') standards by which truth can be universally known' (Guba and Lincoln 2005, p.204). In addition to the epistemological advantage, such an understanding has also contributed to reduced subjectivity thus enhancing the overall rigour of the present research.

5.3 CASE STUDY DESIGN

5.3.1 Case selection strategy

The research questions outlined at the beginning of this chapter necessitated understanding the effectiveness of sustainability planning approaches in the presence of different political, socio-cultural, economic and environmental settings. It was therefore, essential to study two different cases – one in a developing, and another in a developed, region – to be able to provide a comprehensive answer to the questions mentioned above.

The state of Kerala in India was chosen as the study site in the developing world. Kerala is considered an exemplar case for its high social development, thereby setting it apart from other developing regions. The latter thus suggests its atypical and paradigmatic nature – an important case selection strategy according to Flyvbjerg (2006). This information about Kerala, gathered from a broad range of development literature, propelled the researcher to explore the state's planning processes and knowledge relations that have transformed it into a unique model.

Furthermore, a large amount of literature is available on Kerala's socio-economic development process. This being rare for a developing context, further supported Kerala as an obvious choice for the case study. Besides, there were other favourable practical elements supporting the study in Kerala. Being an Indian, it was easy for the researcher to adjust to the culture and the social context prevalent in a developing country without losing valuable time in the field. The study in Kerala was conducted in Thiruvananthapuram, the state's capital, from September to December 2006. Since Kerala was the first of the two studies undertaken, a familiar physical and social setting also provided psychological support in acclimatising herself with the nuances of field work.

In the developed world, Sweden was chosen the case study region for two primary reasons. First, discussions with academicians and review of the literature on sustainability suggested Sweden as one of the frontrunners among the developed countries for its efforts in planning for sustainability (Fudge and Rowe 2001; Rowe and Fudge 2003; Thakur, Keen, Horvath, and Cerra 2003; Gupta, Smith, and Verner 2006). Sweden's social and environmental achievements thus made it a critical case for study (Flyvbjerg 2006).[1]

Second, practically, Sweden was a feasible choice for case study due to the researcher's personal exposure to the Swedish society and culture during her previous stay in the country for postgraduate studies. Fieldwork for the present study was undertaken in Stockholm from January to May 2007. Active academic support from the university and relevant organisations in the city resulted in deciding in favour of Sweden as the second case study. Besides, financial help from the Swedish Institute made the study possible.

5.3.2   Participant selection strategy

Participant selection was a key part of the entire field study exercise. Great care was therefore, taken to ensure inclusion of key actors. The literature study prior to the field work established different socio-economic and institutional priorities for Kerala and Sweden. As a result, it was not

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[1] Flyvbjerg (2006) suggests that a critical case is one which, in the context of the present research on sustainability and planning, would be the 'most likely case' of effective operationalisation of holistic sustainability. In other words, Sweden was considered the example 'closest' to the ideals of holistic sustainability planning discussed in Chapters Two and Four.

practical to develop a common list of participant categories that would be valid for both regions. However, since the research dealt with policymaking and planning issues, it was considered extremely important to receive opinions of both the decision making bodies (largely, government) and the recipient civil society (best represented by a combination of local researchers and the wider local community). As a result, broad functional areas were identified to select key informants within the two broad groups of government and civil society (see tables 5.1 (a) and (b) below). The numbers in brackets provide the total number of informants in each category.

Table 5.1(a) Functional groups for informant selection in Kerala

Total informants for personal interviews: 17	
Government	*Civil society*
Kerala State Planning Board (KSPB) *(2)*	Academic and professional researchers *(3)*
Civil administrative officers *(2)*	NGOs *(1)* Journalists *(2)*
Other government representatives *(2)*	Representatives from the following groups: i. fishing community *(FG)* ii. business community *(2)* iii. civil society (unemployed) *(FG)* iv. civil society (young, educated and employed) *(FG)* v. Others *(3)*

Table 5.1(b) Functional groups for informant selection in Sweden

Total informants for personal interviews: 25	
Government	*Civil society*
Commission on Sustainable Development (CSD) *(2)*	Academic, professional researchers and consultants *(10)*
Government (Ministry and Parliament) representatives (State, county and local level) *(6)*	Journalists *(2)*
	Representatives from the following groups: i. Immigrant communities *(2)* ii. Local community *(2)* iii. Business organisation *(1)*

Prior to proceeding for the field, primary contacts with two prominent academic and research institutions in Kerala and Stockholm were developed. Discussions with key persons at these

institutes suggested important references which were followed up by the researcher. These references not only provided a background to sustainability planning in the case study regions but also helped in establishing further contacts with relevant government informants and researchers. As a result, senior policymaking informants in both Kerala and Sweden were contacted using 'snowballing' as the primary strategy.[2] The contacts thus developed proved extremely useful as these were *the* people who had the power and knowledge to bring to light issues of theoretical and practical significance with respect to the study.

Since most actors in these institutional setups held fairly multidisciplinary and complex responsibilities, approaching the right person was a challenging task. However, the researcher observed that often such overlapping roles proved helpful in corroborating research findings. In some cases, meetings with people that came from varied backgrounds but maintained similar understanding of policies and processes resulted in common themes appearing within minutes of beginning a discussion. Apart from snowballing, the researcher herself undertook several attempts – for instance, contacting the information offices of various ministries and government-funded research organisations (through e-mails and telephone calls) to explain the study and seek help in reaching key policymakers and participating in community meetings and relevant conferences. These efforts ensured sufficient representativeness, heterogeneity and variety in participant selection.

For local groups of actors among the wider community (parts of column two in tables 5.1 (a) and (b) above), where snowballing did not seem to be of much help and necessity, the researcher made her own contacts through acquaintances and friends. For such groups, random selection was made depending upon the readiness and the availability of actors for interviews.

5.3.3   Data collection strategy and methods

Due to the underlying dynamism and complexity of concepts like sustainability and planning, the research, as expected, gradually transformed from being exploratory to explanatory in nature. As a

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[2] Neuman (2000, p.196) defines snowballing as a tool to 'get cases using referrals from one or a few cases, and then referrals from those cases, and so forth'.

result, the need for an essentially qualitative study was well established (Yin 2003). Since the case study strategy allowed a fair degree of flexibility and liberty in conducting the field work, the researcher attempted to exploit this aspect of the research strategy to the maximum. In doing so, the researcher maintained that there was no single method as the 'most appropriate' for a social research of the present kind (Soy 1997; Guba and Lincoln 2005). As a result, multiple sources of data collection were used that were possible with available time and resources (Stacey 1970; Denscombe 1998).

The main techniques used for collecting data involved in-depth semi structured, open-ended interviews; focus group discussions in Kerala; observations; and archival and document records. While interviews, focus groups and participant observations provided what was considered the primary data, documents in the form of government reports, planning regulations and guidelines, planning policies etc. were the secondary data sources. In addition to these, an extensive amount of information was collected from press material including audio-visual media and newspaper articles, non-scientific journals and email correspondences with previous researchers.

On certain occasions interviews with key informants could not be held in a satisfactory fashion – either due to unavailability or restricted availability of some busy government personnel. In such cases, an extensive array of secondary and tertiary data proved useful in not only filling the gaps of information but also in cross-checking interviewees' responses in general. A diversified data collection procedure thereby ensured the rigour of the present research.

A detailed account of the primary data collection methods is presented below. For each of the following methods, the researcher used an informal guide of key issues – a 'guiding map' – suitably adjusted according to the expertise of the participating actor(s). The selection of issues was based on the criteria for the evaluation of sustainability planning established in Chapter Four. The guide map was helpful in that it enabled the researcher to develop clarity in her own questions while also facilitating finely tuned responses from the participants. The interview guide maps are attached in Appendices 5 (a) and (b).

1) Interviews

Key persons identified through snowballing were first contacted by email (or telephone) in order to seek their willingness in sharing their views and experiences with the researcher. This was also considered important to develop rapport with prospective interviewees. Then a suitable time was fixed for a personal meeting. For some senior government officials in Kerala, personal telephone calls were preferred over an introductory email. The meetings were mostly conducted at interviewees' work places with the exception of four meetings in Sweden that took place in cafés and two at the interviewee's residence.

The interviews were primarily semi structured, in-depth and open-ended in nature. On an average, an interview in Kerala lasted for just over an hour and approximately one hour and a half in Sweden. Two interviews in Sweden were particularly long, one with an academic researcher and another with a transportation consultant. A total of 17 interviews were conducted in Kerala and 25 in Sweden. Out of these, on five occasions in Sweden and three in Kerala, the researcher contacted the interviewee again to clarify certain doubts that had developed after analysing the first interview. In another case, the researcher observed contradiction between the statements made by two members of the same organisation. In order to obtain a clearer picture, the first interviewee was contacted again. Since a majority of informants were senior bureaucrats and policymakers, it was not always feasible to arrange a second personal meeting due to their busy schedules and therefore, time constraints. In such cases, clarifications were sought over the telephone.

The guide map with a list of interview prompts, as explained above, was used to make the most efficient use of time by directing the conversation to reveal information relevant to the research. Flexibility was a key element of the interview protocol. The actors came from very diverse settings and as a result, while some actors (e.g. journalists) could discuss a variety of issues considered relevant and useful for this research, others could only discuss more specific issues directly related to their field of work. The combined result of the interviews therefore, provided information across the breadth and depth of issues relevant to sustainability and planning in Kerala and Sweden.

While all but two interviews in Sweden were tape recorded, most senior bureaucrats in Kerala were not comfortable with being recorded. Extensive notes were therefore, taken during the interview

process. Even where tape recording was permitted by the respondents, note taking was still used by the researcher to maintain a personal account of observations of interviewees' unspoken expressions, body language and other comments that were considered either unusual or helpful or both. Since all interviews were conducted by the researcher, consistency was maintained throughout with respect to note taking and interpreting observations. Efforts were made to develop a positive equation with the interviewee by maintaining a healthy rapport at all times, thereby attempting 'to minimize the differentials of power between interviewer and interviewee' (Baxter and Eyles 1999, p.312).

2) Documents and archival records

A vast array of authentic information was collected from documents and records maintained by various government and public agencies. These included *inter alia,* government annual progress reports, government periodicals and journals, state and local planning guidelines, plans, unpublished papers from relevant state (for Kerala) and national agencies (for Sweden), budgetary policies, academic reports, working paper series by academic institutions and civil society organisations, and manuscripts from private consultants and academic researchers. Contacts were also established with previous researchers who had worked on issues relevant to the current research. Their personal communications and published and unpublished works were used to gain insights into the political and social settings of the case study sites at previous points in time. Press releases, minutes of local council meetings and newspapers/magazine clippings were also found helpful in providing information on past issues of concern, thereby allowing situating the current research in a broader context temporally.

3) Participant observations

During her study in Thiruvananthapuram, the researcher was staying in a working women's hostel located at a short walk from the Technopark. More than two-thirds of the hostel inmates came from different parts of the state with varied socio-cultural and religious backgrounds. By being part of an extensive Keralite community throughout the entire stay, it was possible for the researcher to gain an insight into Kerala's social arrangements. Through such close physical presence in Kerala's society, the researcher was thus able to observe and understand the 'mundane, trivial, everyday minutia' (Neuman 2000, p.361). The latter contributed immensely to the development of her understanding of the political and social attitudes prevailing within the region.

In Sweden, the researcher had the opportunity to attend a conference '*Sustainable Regional Development: From Rhetoric to Practice*' held in Stockholm. The conference had a Nordic focus. The latter thus helped in gaining knowledge about sustainability planning in the Nordic countries including Sweden. Besides, the conference also helped the researcher in developing various contacts with people who had come to Stockholm from different parts of Sweden. While some of these contacts readily agreed for a meeting in the evenings (while the conference was still going on), others accepted the possibility of an email discussion with the researcher.

While in Stockholm, an invitation from the MTV Nordic International to attend its press conference provided another opportunity to obtain information on Sweden's social issues of relevance. The press conference helped the researcher in developing further contacts with Sweden's visual and print media. Besides, the event also provided her the opportunity to discuss results from the MTV study with its team and explore its possible application to her own research on Sweden's sustainability planning efficacy.

4) Focus group discussions

Three focus group discussions were conducted in Kerala. The researcher observed that Kerala had a few social groups that needed to be contacted in order to gain a representative opinion or thought-process that could, in turn, provide information on the state's social and economic sustainability planning. Three groups were identified: auto rickshaw drivers, members of fishing communities, and young adults from families where fathers worked in the Gulf either at the time of the study or in the past. Although the initial research plan developed prior to the field study did not include focus groups, the researcher decided to conduct these small but intensive discussions based on her informal conversations and meetings with local academics and the civil society.

The reason for choosing auto rickshaw drivers as a group was purely based on personal – formal academic as well as informal – information gained in the field that suggested that several school-dropouts in Kerala ended up in these jobs. The researcher therefore, felt the need to organise a group discussion to understand the general 'psyche' behind why these drivers 1) left school, and 2) why they thought driving auto rickshaws was suitable for them, socially and economically. Apart from this group, fishing communities are considered an 'outlier' social group that are disadvantaged

socio-economically and politically (Kurien 2000). The researcher's interest in understanding the true reason for the communities' prolonged underprivileged social status encouraged the choice of a focus group discussion as a data collection tool. The reasons for the conduct of a third focus group discussion with adult children (aged 20-29 years) from Gulf emigrant families were based on the literature that suggested emigration's high social and psychological impact on families, especially women and children (Zachariah, Mathew, and Rajan 2003).[3]

Each focus group was conducted with 10 to 12 participants. For discussions with the auto rickshaw drivers and members of the fishing communities, the researcher made use of a local friend who agreed to translate the conversation, whenever required. Both discussions took place at the house of the researcher's local friend. The third focus group discussion was conducted in English in the lawns of the Technopark. The discussions began with the researcher explaining her study briefly and the particular reason for conducting the discussion. Each discussion lasted approximately for an hour and a half. Extensive notes were taken by the researcher who also moderated the meeting with some external help in language translation.

In Sweden, however, no focus group discussion was conducted mainly because the study did not identify any other significant social group except immigrants that needed broad attention. Focus group discussions were not possible with immigrants as most came from different backgrounds. The researcher's academic contacts also informed her that the immigrants might not be particularly interested in discussing their stories with a 'stranger'. Besides, the study of immigrants, while being important to understand Sweden's social sustainability planning efforts, was not the central theme of this research. As a result, the idea of a focus group discussion was dropped. Instead, in-depth interviews were conducted with two known immigrant families to obtain their experiences of life in Sweden.[4]

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[3] Chapter Six strengthens the indirect implications of studying the three social groups in developing a comprehensive account of Kerala's socio-economic sustainability planning.

[4] One of the families was contacted through an academic staff at the university where the researcher was based. The second family was known to the researcher from her previous stay in Sweden in 2003-04.

5.4 TRIANGULATION AND RIGOUR

A wide range of literature suggests the importance of rigour in case study research (Baxter and Eyles 1997; Lincoln and Guba 2002; Yin 2003; Bradshaw and Stratford 2005; Hay 2005; Rolfe 2006). While some consider rigour 'the key to success' (Rolfe 2006, p.305), others claim that maintaining methodological and analytical rigour in qualitative case study research helps in providing a critical response 'to the question of whether or not the findings are sufficiently credible and trustworthy' (Anfara, Brown, and Mangione 2002, p.28). Drawing on these recommendations, the present case study research was designed and conducted with an aim to maintain a high quality of rigour at all stages. A clear overall research design including precision during the field studies was therefore, ensured using the following procedures.

5.4.1   Data triangulation

In order to establish the credibility of collected data, two types of triangulation techniques were simultaneously applied – source triangulation and methods triangulation. Source triangulation involved checking collected and interpreted data from more than one actor. Thus two or more actors were interviewed about the same issue of relevance and similar responses were considered to strengthen the credibility of the findings. Methods triangulation, on the other hand, used more than one method to confirm the final interpretation. It involved therefore, matching data from interviews against relevant documents to cross check the final results. Both techniques were useful in bringing out contrary findings if any and enabling a further probe by either rechecking the researcher's own interpretation of collected data or contacting interviewees again for clarifications.

To this extent, triangulation not only contributed to a high degree of reliability and clarity in findings but also provided an all-inclusive holistic view to the research context. Tobin and Beagley (2004, p. 393) provide support to this property of triangulation:

> Completeness is important to qualitative inquirers, as it allows for recognition of multiple realities. Inquirers are thus not using triangulation as a means of *confirming* existing data, but as a means of enlarging the landscape of their inquiry, offering a deeper and more comprehensive picture.

While triangulation made a significant contribution towards maintaining the credibility of collected data, the final research rigour was enhanced by using a multitude of other techniques. The following section details the strategies used to maintain a high quality of rigour throughout all stages of the research process.

5.4.2   Essential criteria for establishing rigour

According to Baxter and Eyles (1997), comprehensively speaking, the ultimate rigour in any research is determined by the credibility, transferability, dependability, confirmability of research findings – qualities analogous to the conventional attributes of validity, generalisability, reliability and objectivity respectively – as well as adherence to the principles of academic integrity like honesty and self-reflection (Yin 2003). The research design encouraged a simultaneous appeal to each of these characteristics, thereby promoting the overall quality of research findings. The processes through which each of these criteria was met in the case study design are presented below.

1)   Credibility or validity

Defined as the degree to which an interpretation or the construction of a particular reality can be recognised immediately by not only the scientific community but also the people who were involved in its construction in the initial stages (Baxter and Eyles 1999; Maxwell 2002; Yin 2003). To ensure credibility in the present research, following steps were taken:

1. The number and type of actors selected for interview (tables 5.1 (a) and (b)) was a result of carefully undertaken review of issues significant to the region's sustainability planning. The snowballing technique ensured both a fair representation of the relevant population and sufficient heterogeneity, given the time and resources available;

2. Interviews were conducted for as long as the respondents' views varied significantly in terms of providing new and rich insights into the issue of sustainability and planning. Repeat visits (or contacts) with respondents further enhanced the validity of the data

collected. Their extensive responses thus provided both depth and breadth to important issues of concern;

3. Efforts were made to develop a rapport with the respondents which helped bring them to ease during the interviews and to a comfort level that encouraged them to be honest with their responses;

4. Triangulation was used to check the convergence of findings. Both source and method triangulations were extensively employed to strengthen the credibility of results; and

5. Member checking was carefully practiced. This meant interpreting respondents' views and rechecking with them for its accuracy as well as adequacy. This practice also sufficed ethical obligations towards the respondents in that it let them know how data or information gathered from them was being used. Member checking thus provided a useful platform for not just checking the interpretations but also clarifying doubts and giving the respondents another opportunity to provide useful information that was missed in the previous conversation.

2)   Transferability or generalisability

Defined as the degree to which findings of a particular study may 'fit within contexts outside the study' (Baxter and Eyles 1997, p.512; Eisenhardt 2002; Schofield 2002; Yin 2003). The purpose of the present research was not to develop statistical generalisations. It rather focused on developing an analytically theoretical standpoint which – with contextual changes – could be generalised elsewhere. A detailed description of the case studies is presented in Chapters Six and Seven. The development of two varied case studies produced an analytical understanding of sustainability and planning that would be applicable to other regions. A comprehensive methodological and interpretive analysis of the two cases is presented in Chapter Eight which will contribute to existing theories on sustainability and planning.

3)   Dependability or reliability

Defined as the degree to which the findings of a study may be (re)produced by maintaining the same context temporally and spatially (Baxter and Eyles 1999; Yin 2003; Howitt and Stevens 2005). To ensure that the research findings were reliable, a case study protocol was developed which guided all field activities like data collection and documentation (Yin 2003). A case study

database was also prepared which included all the data collected from respondents and other sources in the field as well as the researcher's personal notes of field observations (Yin 2003).

4)   Confirmability or objectivity

Defined as the degree to which the findings from a study are independent of the biases, motivations or perspectives of the researcher, thereby avoiding an inherently subjective view to the research. Objectivity was maintained in the following ways:

1. The findings were triangulated with different sources and methods to avoid subjectivity;
2. The researcher's own ethnocentric background and academic interests have been presented earlier in this chapter. It has been done with the intention to provide the reader clues on how her own experience and understanding of relevant phenomena could have influenced various decisions made through the research process; and
3. The study's confirmability was further strengthened by maintaining a chain of evidence (defined as 'cross-referencing to methodological procedures and to the resulting evidence') throughout the research process (Yin 2003).

By implementing the above mentioned strategies, the researcher confirms that a high degree of rigour has been maintained throughout the design and conduct of the research process.

5.5 DATA PRESENTATION

The research is extensively based on primary and secondary data sources. The results from the two case studies are presented in separate chapters. Wherever appropriate, tables and figures have been used to illustrate the data in a more concrete manner. On some occasions, interviewee quotations are included to substantiate the results. The anonymity of field respondents, during their reference in the text, is maintained using codes. All respondents have been divided into two main categories for each case study – representatives from the government-owned/ managed bodies and actors from the civil society. Finally, this has produced four different group codes, KGR (Kerala Government Representative), KCSS (Kerala Civil Society Stakeholder) and SGR (Sweden Government Representative), SCSS (Sweden Civil Society Stakeholder), for all interviewees in Kerala and Sweden respectively. The number at the end of the code suggests the sequence in the

interview schedule. For example, KCSS 2 represents the second interviewee from the civil society stakeholder group in Kerala. Similarly, SGR 7 is the seventh government representative interviewed in Sweden during the course of the field study. FG denotes the result produced from focus group discussions in Kerala. The number (for instance, FG 2) suggests the sequence of the group within the total of three discussions conducted.

CONCLUSION

This chapter has outlined the research design and methodology used in conducting the present research. The research made a qualitative inquiry by using two case studies. The main reasons behind the choice of a case study as the primary research strategy have been stated. The researcher has attempted to clarify her ethnocentric background and research interests with the objective of establishing the epistemological and the fundamental logic underpinning this study. The chapter has also produced a detailed account of the process of designing the case studies – from the selection of sites to the selection of field participants and finally, to the main methods used for collecting the necessary data. A detailed description has also been made regarding the various techniques adopted to meet the four main criteria for establishing rigour through different stages in the research.

The next chapter presents data collected from the two case studies conducted as part of this research. The criteria developed in Chapter Four have guided the data collection process in both study regions. Results from the first case study in Kerala are presented in Chapter Six, followed by results from the second study in Sweden in Chapter Seven.

CHAPTER SIX

CASE STUDY 1: KERALA

INTRODUCTION

Several scholarships have considered Kerala a 'model' whose development experience provides lessons to other regions in the world to build their socio-political capacities (Jeffrey 1992; Franke and Chasin 2000; Isaac and Franke 2000; Kurien 2000; Parayil 2000; Veron 2001; Parayil and Sreekumar 2003; Kannan and Pillai 2004). Due to its achievements in the fields of primary health and education, female empowerment, equitable distribution of resources and an overall high social quality of life, Kerala is considered an exceptional, even paradigmatic case by governments and researchers across the world (Parayil 1996). This chapter provides the first of two case studies undertaken to address the research questions outlined earlier. With the help of the field study, the chapter evaluates the efficacy of Kerala's planning efforts in achieving holistic sustainability. In doing so, it describes Kerala's achievements (and challenges) with regard to operationalising sustainability.

The chapter is organised in six sub-sections. To begin with, it discusses the formation of the state and how it has evolved over the last few decades. The second section focuses on Kerala's effectiveness in achieving social sustainability. It discusses its accomplishments and challenges. The subsequent section provides information on Kerala's economy, including the effects of unemployment and migration on its long-term sustainability. Section 6.4 discusses the state of Kerala's environment. In doing so, it focuses on the immediate challenge(s) which the state faces in maintaining its natural resources. The final section presents an account of Kerala's public policies and their efficacy in pursuing institutional sustainability. Finally, the chapter summarises significant findings regarding sustainability planning in Kerala.

6.1   THE 'OLD' AND 'NEW' KERALA

This section presents background information on Kerala's geographical location and other physical attributes. It is then followed by a description of the state's genesis and the role of the civil society in the evolution of Kerala as an interesting region for study. As discussed below,

Kerala remains a state within India that encloses a social and economic fabric different from those existing in other parts of the country. It is therefore, believed that the state's physical and political background has played a decisive role in the development of the contemporary Kerala (Parayil 2000).

Kerala is one of the 28 states in India. It is geographically located in the south-west bordering the two rich and large southern states of Karnataka and Tamil Nadu to its north and east respectively (see Map 3). Kerala spreads over a total area of 38,863 square kilometres and has a population of 31.8 million inhabitants (Government of Kerala Census 2000). The state's population density – 819 per square kilometre – is one of the highest in the country (second only to West Bengal which has a density of 904) (Government of India 2001b). Of Kerala's total population, approximately 26% people live in the cities. Table 6.1 below compares key socio-economic indicators between India and Kerala to highlight why the latter is often considered a 'unique' case in India (Ramachandran 1996).

Table 6.1: Socio-economic indicators for India and Kerala

	India		Kerala	
Birth rate (per '000 population) (1997)	27.2		17.9	
Death rate (per '000 population) (1997)	8.9		6.2	
Infant mortality rate (per '000 live births) (1997)	71		12	
Total fertility rate (1996)	3.7		1.8	
Sex ratio (Females per 100 males) (2001)	93		105	
Economic growth (1996)	3.1		0.3	
	Males	Females	Males	Females
Literacy rate (2001)	75.85	54.16	94.2	87.86
Mean age at marriage (1991)	24	19	28	22
Life expectancy at birth (1992)	59.0	59.4	68.8	74.4

Source: (Ramachandran 1996; Government of Kerala Census 2000; Parayil 2000)

Kerala's physical geography divides the state into five kinds of regions – mountains, high-land, mid-land, low-land and coastal (Dileep 2007). Kerala receives heavy monsoon rains with highest monthly rainfall in the months of June and July. Due to excessive rainfall, Kerala remains green throughout the year. It is therefore, also known as 'God's own Country' (Padmakumar 2007). For administrative purposes, Kerala is divided into 14 districts, 53 municipalities and a total of 1467 villages (Government of Kerala Census 2000).

Map 3: Kerala
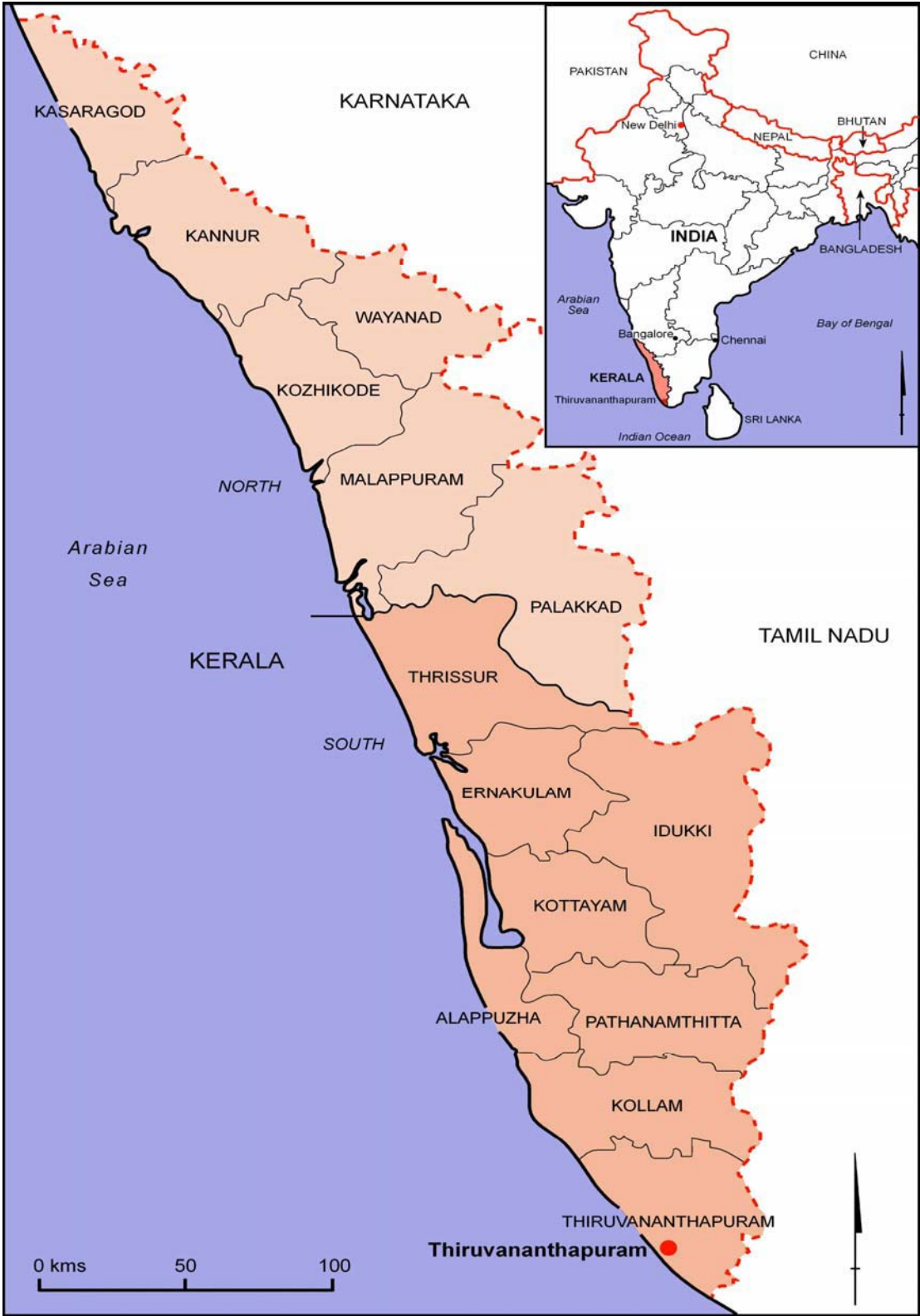
6.1.1   The making of 'Kerala'

The state of Kerala was born on November 1, 1956 (Achuthanandan 2006). The decision to form Kerala was based on the practice being followed elsewhere in the country at that time – bringing together regions which spoke a common language. It was therefore, decided to organise the princely states of Travancore and Cochin as well as the British ruled Malabar into a single entity. Although all three regions had strong differences in terms of their political, social and economic conditions, the language – *Malayalam* – was the main thread that bound them together.

From the first day of its existence, the state created history by electing a Communist Party in a democratic country. The Communist Party of India (Marxist) – the CPI(M) – which was formed in 1937, much before India's independence, was elected to power (Achuthanandan 2007). The state's first chief minister, EMS Namboodirippad, is considered the architect of modern Kerala. With Namboodirippad in power, immediate efforts were made to change the face of Kerala's conventional and rigid social and economic class structure.

Namboodirippad and his team undertook a multitude of initiatives in order to create a platform for Kerala's long-term progressive development. The most famous of these efforts were the abolishment of the feudal land ownership system (the Land Reform Bill) and the introduction of the Education Bill. In the 1960s, Kerala had the highest number of agricultural workers in the country but at the same time, also suffered from an unequitable distribution of land (Lieten 1982). There was rampant exploitation of peasants and landless labourers by 'landlords [who] owned 37% of the land though they represented only 2.3% of all agricultural households' (Lieten 1982, p.74). By advocating land rights for the landless, creating 'mass consciousness' against caste-based exploitation, and deciding to put a ceiling on the land ownership capacities of rich landlords, the communist ministry gained instant popularity among the disadvantaged sections of Kerala's agricultural society. Ramachandran (2000, p.98) argues that the agrarian reform process has been a 'foundational feature of Kerala's development … and social and economic progress'.

On the educational front too, caste- and class-based discrimination was rampant. Traditional administrative systems and educational practices favoured the *Brahmins*, Christians and *Nairs* – the three socially accepted classes. The scheduled castes, Muslims and *Erevas* were clearly

discriminated against and therefore, remained underrepresented in schools (Lieten 1982). The presence of a large number of private institutions whose high tuition fees could not be afforded by the poor communities further aggravated discrimination and prevented the spread of education in the society. 'The ratio of government schools to private institutions was 2 to 7 in 1957.' (Lieten 1982, p.35) To deal with these issues, the Kerala Education Bill was introduced in July 1957. The Bill had two immediate objectives: to protect the rights of teachers and to encourage a less-discriminatory and hence, more accessible education system.

However, due to the deep penetration of feudal and caste systems in Kerala's culture, both the Land Reform and the Education Bill were strongly opposed by different sections of the society. While the Land Reform was debated by the rich and often the most powerful set of landowners, the Education Bill was rejected by the Church and Christian missionaries. 'It was claimed that a petition requesting the withdrawal of the [Education] Bill received one million signatures by the beginning of August 1957.' (Lieten 1982, p.49)

As a result of severe debates and oppositions, there was constant unrest in the state which subsequently led to the fall of the first Communist ministry in 1959. In the words of the current Chief Minister V S Achuthanandan, 'In 1959, communal, religious and retrogressive forces joined hands with Congress in the liberation agitation to coup [the first Communist] government' (Achuthanandan 2007, p.4). Despite its failure in establishing a long-term government, it is argued that the Communist rule nevertheless played a significant role in liberating Kerala's landless and poor from traditions of disadvantage, exploitation and penury (Lieten 1982; Kurian 1986). In doing so, the CPI(M)'s policies and administration led to the decline of historically dominant caste barriers – an important milestone in the adoption of Kerala's futuristic approach to social development (Lieten 1982).

However, with the fall of the first state government – barely two years after it was democratically elected – two issues emerged which have dominated Kerala's political scenario since 1957. Firstly, the state has a highly unstable government (Government of Kerala 2007h) and secondly, Kerala maintains a strong culture of progressive (often, also radical) grassroots movements (Lieten 1982). Both these issues are not only inter-connected but also play a key role in determining Kerala's planning approaches for achieving holistic sustainability.

In Kerala, neither of the two main political parties – the Congress and the CPI(M) – has been in power for a second consecutive turn (Centre for Development Studies 2005). This, in itself, is a proof of the political upheaval and the resulting lack of consistency in the state government's performance in planning and pursuing sustainability. A significant factor responsible for constant changes in the government has been the presence of a politically and socially active public community which is aware of its own rights and the government's responsibilities. Therefore, historically, subsequent democratic elections in Kerala have removed governments that were earlier elected to power by the same set of people.

This practice has had both merits and demerits for Kerala's sustainability so far. The advantage is that people are well-informed and aware of what they want from the government. In consequence, the society's power to elect and reject a government has thus helped the latter to make earnest attempts to keep up with public expectations. The disadvantage however, is that Kerala has constantly suffered from political instability (Singh 1960). Schemes formulated and implemented by one government are discarded by the subsequent group in power. As a result, an increasing number of new projects have been drafted over the last three or more decades but an even greater number of schemes have been debated, and finally dropped! This common practice in Kerala's politics has thus impeded the state's chances of achieving deep-rooted sustainability.

6.1.2 The 'new' Kerala and the role of the civil society

Maintaining the tradition of constant changes in the state government, the year 2006 has brought CPI(M) back into power. Under the leadership of the new Chief Minister, the state has initiated the process of planning for sustainability by following the 'Vision 2010' recommended by the previous party in power. The Vision statement provides a framework that guides Kerala's attempts towards achieving sustainability (Government of Kerala 2006). The Vision document has established five priority issues that are crucial for Kerala's long-term holistic development. These issues have subsequently been translated into targets and objectives to be achieved by 2010-11 (Government of Kerala 2006, p.3):

1. Double *per capita* income by focusing on the development of agriculture, traditional industries, manufacturing and 'knowledge economy';
2. Reduce unemployment by half;

3. Improve the quality of higher education;

4. Reduce absolute poverty and hunger; and

5. Enhance the quality of public services and focus on local level development.

Besides these broad goals, a number of core sectoral strategies have also been established to help address these issues. A deeper examination of the vision statement however, suggests that the document *only* highlights issues that are important and therefore, require immediate address. It lacks any discussion on measures that are essential to understand 'how' these issues may be dealt with. For example, as a core strategy to develop transport – a public service – the document proposes that the state's public transport system needs to be improved. However, it fails to provide a suitable means to operationalise methods to achieve the desired public transportation goals. Due to an underlying lack of clarity on the *process* of achieving the targets, the document appears rhetoric on the surface. In light of these observations, it becomes essential for the current government to formulate a process that addresses priority issues both qualitatively and quantitatively.

Besides the Vision 2010, another effort made by the state government to plan for sustainability is the preparation of a policy document containing '10+3+3 missions for Kerala's development and poverty alleviation' (Government of Kerala 2005). The 16 missions encompass several issues from tourism and traditional industries to poverty, fisheries and space technology. Although the scope of this document is limited in comparison to the Vision 2010, it is nevertheless, more concrete in terms of translating theoretical objectives into practical outcomes. The document provides an in-depth knowledge of the goals, benefits, potential threats, and policy and institutional requirements essential to achieve the identified missions. In doing so, it not only enhances the institutional capacity to meet these current goals but also creates a multidisciplinary platform for exchange of ideas and resources for future planning for sustainability at the institutional and public policy level.

Furthermore, although the document enlisting 16 missions is useful in that it addresses the process of implementation, its final effectiveness has remained doubtful. The uncertainty has developed due to a fair amount of repetition of ideas and objectives between these missions and the core strategies presented in the Vision 2010. While the recurrence underpins the attention that these issues need on an immediate basis, a government representative informed that such replication of goals and ideas often created confusion (KGR 2 2006). According to the

respondent, creating policy documents which duplicate ideas impede effective planning due to 'waste of time, energy and other resources' (KGR 2 2006). He argued that in the past, unnecessary repetition and overlapping of goals has led to arguments among the policymakers regarding priorities that should be associated with each issue. Instead, he recommended that the state government should formulate *one* sustainability policy document that would, in turn, guide local governments to plan for its implementation. According to him, 'various state governments in power have failed to generate a consensual agreement over Kerala's immediate priorities and this has contributed to failed implementation efforts on several occasions' (KGR 2 2006).

Lack of consensus among political leaders is further strengthened by a local academic researcher who believes that the political scene in Kerala is highly competitive (KCSS 1 2006). According to a representative of the local government, political instability, as explained earlier, is a significant reason for increasing competition at the state level (KGR 4 2006). The interviewee argues, 'For a very long time, the focus has been on satisfying own political agendas than truly showing a sincere attempt towards making Kerala sustainable' (KGR 4 2006).

Field discussions thus suggested the need for a revolutionary change in Kerala's internal administrative polity. A journalist, who has been interviewing decision makers at all levels of the state administration for more than two decades, was highly frustrated with the state's unethical institutional governance practices (KCSS 6 2006). He believed that 'each political party in this state is in competition with one another, and therefore, their own pride and motives have always come first and the aspirations and needs of the people of Kerala have been secondary' (KCSS 4 2006). He argued that the majority of what Kerala has achieved has been due to its people's willingness to learn 'the political tricks' and push the government to meet public demands. This is further strengthened by Heller (2005) who asserts that Kerala's governments have performed only when there has been pressure from the public.

Such arguments suggest the presence of a strong and active civil society in Kerala. Several other scholarships confirm that the state's age-old culture of society-state engagement is an important reason for Kerala's achievements (Isaac and Franke 2000; Raghuram 2000; Tornquist 2000a; John and Chathukulam 2002; Heller 2005; Justino 2006; Heller, Harilal and Chaudhari 2007; Tsai 2007). Organised public demands and collective movements have

resulted in a better relationship between the state's policymakers and the civil society at large, thereby ensuring that democracy is imbided in the state's social and political fabric.

> Kerala's string of social movements for democracy, nationalism, labour, agriculture, literacy and even NGOs have ensured a high degree of social mobilization … This, in turn, has resulted in an on-going governmental commitment to investing in a wide range of social services (Tsai 2007, p.300).

Having said this, the role of institutions and state's policymakers in delivering an improved quality of life can not be undermined either. According to Tharamangalam (1998), Kerala's bureaucratic system has played a significant role in responding to and satisfying popular public demands. 'High levels of state activism and government expenditures have promoted rather than thwarted development.' (Tsai 2007, p.300) To this extent, Kurien (2000) stresses the simultaneous role of social activity and state action in advancing Kerala's social sustainability. 'It does not matter what comes first, the facilities or the collective action. The point is that without the latter, even radical and committed action by the state alone will remain a sterile challenge.' (Kurien 2000, p.197)

Isaac and Frank (2000) further emphasise the relationship between Kerala's vibrant civil society and its government. They suggest that the functioning of the state and its responsiveness to people's expectations is directly related to the pressure generated from below. According to another researcher who had studied Kerala's local level development experience in the past, there are generally two kinds of political wills which encourage sustainable social and economic changes in any developing or developed region (KCSS 10 2006). The first kind is the one that comes from above and is initiated at the management level in a political party independent of any local, regional or national pressures from the civil society. The second kind is that which is forced upon the government because the community below demands it. Many weeks of discussions and observations in Kerala – supported by the literature – suggest that a larger share of the political will prevalent in Kerala's current approaches to sustainability planning is of the latter type.

Furthermore, the results show that the processes that have shaped Kerala's development and social sustainability are political as well as social. 'Behind all these improvements [social achievements in health and education] was an ever-growing public demand' (Centre for Development Studies 2005, p.14). Therefore, the role played by an aggressive civil society has been, without doubt, historically significant for Kerala's planning for holistic sustainability. In

addition to this, the presence of a politically, socially and morally conscious population offers to other regions in the world, an exemplary case of the potential and capacities of such societies to expedite the transition to long-term sustainability.

The role of the civil society in shaping Kerala's transition to sustainability is further explained by studying the differences between the effectiveness of planning approaches of North and South Kerala. According to Kerala's State Development Report, the southern districts (earlier, Travancore and Cochin) have traditionally been more socially developed regions than their northern counterparts (earlier, Malabar) (Centre for Development Studies 2005). 'The rulers of Kerala were progressive even in pre-independence days, giving priority to health, education and the arts. There were several social reform movements … that sought an egalitarian order or fought specific prejudices.' (Singh 2006, p.8)

On the other hand, the state's northern districts – with a large majority of Muslims and scheduled tribes – have remained disadvantaged. The civil society in these districts is also less active than in the southern part (KCSS 3 2006). In the absence of a vibrant civil society, the government alone has been unable to bring about significant changes in the socio-cultural and economic arrangements of the northern districts. The deprived state of the north part of Kerala – evident through poor health and education standards (see tables 6.3 to 6.6) – thus reinforces the inability of the government in planning for long-term sustainability in the absence of an assertive and demanding civil society (Centre for Development Studies 2005). This argument is further supported by an informant who suggested:

> If you look at Kerala's history, southern Kerala has always been more socially advanced than its northern counterparts. Since the situation has not changed much, it is rather obvious to claim that post-1956 governments have not been able to bring about much change … the state's South-North socio-economic gap continues to persist (KCSS 3 2006).

In conclusion, it may be argued that Kerala's governments have traditionally favoured progressive reforms. Early radical initiatives like Land Reforms and the Education Bill support the state's far-reaching pro-public policies. The discussion above has also established that constant political instability combined with an aggressive civil society has played a decisive role in delivering within India the Kerala 'model' which '[demonstrates that] the people of developing countries can enjoy a quality of life that can equal those of the best through the right mix of the policies' (Singh 2006, p.8). In light of these observations, it is suggested that Kerala's cultural

and historical background has played an important role in shaping its contemporary approaches for sustainability planning.

6.2   SOCIAL SUSTAINABILITY

As mentioned earlier in Chapter One, this research explores the efficacy of planning pathways in achieving holistic sustainability. According to the discussion in Chapter Two, the idea of holistic sustainability requires understanding the concept and its implementation across four main perspectives – socio-cultural, economic, environmental, and institutional. This section discusses Kerala's accomplishments and its planning approaches employed to achieve long-term social sustainability. Firstly, a general background of Kerala's social arrangements is presented. It includes, *inter alia*, a discussion on Kerala's disadvantaged sections of the society and related challenges for pursuing long-term sustainability. This is then followed by a detailed study of Kerala's sustainability planning approaches in three important areas – education, health and gender equality – and an evaluation of their success and future challenges.

6.2.1   Social arrangements

Kerala is one of the very few secular states in India where people from different religions have lived together in harmony for a long time (Ramachandran 2000). Table 6.2 below presents Kerala's population distribution based on religion.

Table 6.2: Religion-wise population distribution as percentage of total population

NOTE:
This table is included on page 126 of the print copy of the thesis held in the University of Adelaide Library.

Source: (Government of Kerala 2007c)

The language – *Malayalam* – as discussed in the previous section is the only common factor which binds all people together. Despite different and often contrasting religious practices being followed throughout the state, Kerala's population has not witnessed any strong sectarian violence. This is particularly noteworthy, given the occurrence of religion-based violence in several other Indian states. As Heller (2005, p.84) argues, this has largely been due to a political set up that has encouraged 'a fairly stable electoral distribution between class-based

parties, rather than the continuous and opportunistic realignments of communal and caste alliances that have become the hallmark of Indian electoral politics'.

For more than a century, Kerala has witnessed a strong caste-based society. In fact, the state's social division on the basis of castes has reportedly been the most severe in the whole country (Ramachandran 1996). The society was traditionally divided into *Brahmins* (the priestly class), the *Kshatriyas* (the political rulers) and the *Sudras* (the unprivileged labour and working class for activities like weaving, carpentry, fishing and field labour). Besides these primary groups, there was also a category of traders from non-Hindu groups of Muslims and Christians (Kurian 1986). The caste-based division led to a subsequent class structure, thereby dividing the society into multiple antagonistic groups. Kurian (1986) has presented a historical analysis of Kerala's hereditary caste-based division. According to him, the (former) lower caste people would be unable to escape from the clutches of their traditional occupations largely due to strong traditional settings and an in-borne social resistance to change the system. Personal observations in the field (refer box 6.2) have confirmed that caste- and class-based biases continue to exist in Kerala's contemporary society.

Of all social groups in Kerala, communities in the northern districts – mostly Muslims and scheduled tribes – are the most disadvantaged (Centre for Development Studies 2005).[1] Table 6.3 below highlights the lack of attention from the state government and subsequent low social indicators in these districts vis-à-vis those in the southern Kerala (Ramachandran 1996). Apart from the state's northern population as an underprivileged social group, the literature suggests that three other major communities have been historically disadvantaged (Ramachandran 1996; Kurien 2000). These groups – often considered 'outliers' – are Muslim and Christian fishing communities, local scheduled tribes (*adivasis*) and illegal migrant workers from the bordering state of Tamil Nadu (Ramachandran 1996; Kurien 2000; Centre for Development Studies 2005). According to Kerala's Human Development Report, significant differences between different social groups 'is a distressing symptom of a still uncured aspect of horizontal inequality in the state' (Centre for Development Studies 2005, p.58).

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[1] Malappuram, Kozhikode, Wayanad, Kannur and Kasaragod are referred to as the 'disadvantaged' northern districts of Kerala (previously, the Malabar region). Idukki, an eastern highland district, while not exactly in Kerala's north, is considered an outlier district due to its hilly terrain (Centre for Development Studies 2005).

Table 6.3: Distribution of social indicators between southern and northern (exception: Idukki) districts

NOTE:
This table is included on page 128
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Centre for Development Studies 2005)

Discussions with members of the fishing community in Thiruvananthapuram revealed that their economic, political and social living conditions have not changed much in the last two to three generations (FG 1 2006). It was observed that the women, in particular, maintained negligible faith in the state government. Three of the five women from the age group of 22-35 felt that given an option, they would not like their children to remain in Kerala. According to them, they would like to send their children to other states in India, if their financial capacities prevented them from arranging their migration to the Gulf (which remains the obvious first choice for most poor and unemployed in Kerala). Men from these fishing communities believed that lack of education and poor health facilities were the two biggest reasons for their continued deprivation (Kurien 2000). Considering these observations, the claim considering Kerala a sort of Scandinavia of the developing world (Tornquist 2000b) made by various politicians and researchers appears not only paradoxical but also highly rhetorical.

The discussion above has highlighted issues that are potential threats to Kerala's long-term social sustainability. Persistent failure to eliminate caste-based social divisions and continued deprivation of three different social groups contradict the state's adoption of equitable development policies. However, despite these bottlenecks, Kerala's social sustainability planning has resulted in developing and maintaining a strong focus on primary health, education and gender equality (Parayil 2000; Veron 2001; Parayil and Sreekumar 2003). The following section discusses Kerala's planning in each of these areas and presents the state's current achievements and challenges. In doing so, it also demonstrates the efficacy of planning efforts undertaken by the government at various levels to pursue social sustainability across the state.

6.2.2   Social planning achievements and challenges

According to the literature, Kerala's planning approaches in making social services – e.g. primary health, education and gender empowerment – accessible to the local public are effective as they are deeply rooted in Kerala's socio-political culture (Ramachandran 1996; Franke and Chasin 1999; Parayil 2000). It is for these reasons that Kerala has often been cited as:

> an important case of a sub-national trajectory of social-democratic
> development … [where] social indicators have continued to climb
> …There is little doubt that no other state has been more

consistently pro-poor or successfully redistributive than in all of India, and possibly anywhere in the developing world (Heller 2005, p.81).

The following section reviews these oft-cited achievements and establishes their efficacy with regard to operationalising Kerala's long-term social sustainability.

1) Primary education

The fact that Kerala has universal primary education has been repeatedly discussed in the literature (Ramachandran 1996; Parayil 2000; Centre for Development Studies 2005). As highlighted in table 6.1 earlier, when compared with the national average, Kerala maintains a high literacy rate across both sexes. The fact that Kerala has the highest rate of newspaper circulation in the country further strengthens the presence of high rates of education throughout the state (Ramachandran 1996; Isaac and Franke 2000).

However, despite these achievements, there are increasing doubts regarding the quality of Kerala's school and higher education. 'There is widespread discontent among educationists and people in general about the *quality* [emphasized in original] of education imparted in schools in Kerala' (Centre for Development Studies 2005, p.35). The current academic practice of 'automatic promotion' has been constantly rejected by various educationists.[2] It is debated that such practices may have long-term repercussions in terms of producing poorly qualified students (KCSS 2 2007). Furthermore, the literature suggests that the education system in Kerala is crippled with outdated methods of teaching and obsolete academic syllabi (Centre for Development Studies 2005; Baby 2007). Planning approaches in the education sector therefore, necessitate radical reform to ensure Kerala's long-term success in pursuing holistic sustainability (KGR 5 2006).

Apart from the education system which needs reinforcement in its quality, there is also a remarkable difference in education accessibility between northern and southern Kerala (see table 6.4 below). Most of the states of the old Malabar region – Wayanad, Palakkad and Kasaragod – and Idukki maintain lower literacy rates than the average rate for Kerala besides having relatively fewer schools than other areas. This comes in complete contrast to the government's claims of making education equitably accessible across the state.

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[2] The system was first adopted to discourage students from dropping out by allowing them to move on to the next level automatically without having them pass an examination (Centre for Development Studies 2005).

Table 6.4: District-wise distribution of schools and literacy rates

	Number of schools (% of total)	Literacy rate		
		Total	Male	Female
Kerala	*12644*	*90.92*	*94.2*	*87.86*
Thiruvananthapuram	989 (7.8)	89.36	92.68	86.26
Kollam	924 (7.3)	91.49	94.63	88.6
Pathanamthitta	735 (5.8)	95.09	96.62	93.71
Alappuzha	762 (6.02)	93.66	96.42	91.14
Kottayam	921 (7.28)	95.9	97.41	94.45
Idukki	478 (3.7)	88.58	92.11	85.04
Ernakulam	1014 (8.01)	93.42	95.95	90.96
Thrissur	1011 (7.99)	92.56	95.47	89.94
Palakkad	962 (7.6)	84.31	89.73	79.31
Malappuram	1472 (11.6)	88.61	91.46	85.96
Kozhikode	1239 (9.79)	92.45	96.3	88.86
Wayanad	293 (2.3)	85.52	90.28	80.8
Kannur	1292 (10.2)	92.8	96.38	89.57
Kasargod	552 (4.3)	85.17	90.84	79.80

Source: (Centre for Development Studies 2005; Government of Kerala 2007c)

Furthermore, Kerala's education scenario is threatened by a high rate of school dropouts, particularly at the high school level (table 6.5) (Centre for Development Studies 2005). In order to understand the reasons behind the large number of school dropouts, a focused group interview was conducted with 10 people (former school dropouts) who belonged to Kerala's lower middle class with at least one uneducated parent. The discussion revealed two possible reasons for a constant increase in dropout rates.

The lack of incentives from the government to continue education was the primary reason for abandoning school education for a majority of participants (FG 2 2006). According to a participant:

> The authorities feel that they have done a good job by providing us with schools. But we know that schools do not help us get a job. There are jobs in Kerala if you are either an engineer or a doctor or know how to work with computers.[3] But in our cases … parents are financially weak and uneducated … [we] need money to get a professional degree … if we don't have money, there are

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[3] This feeling is further verified by Kerala's Human Development Report 2005. According to the report, '[the demand for engineering and medicine studies] is an expensive and desperate effort to improve one's employability' (Centre for Development Studies 2005, p.95).

not enough opportunities to work even if we finish all years of schooling' (FG 2 2006).

Another interviewee argued that a common pattern of thinking among most school-going children from families belonging to lower economic strata was that 'If one has to become an auto rickshaw driver, why waste years going to school when ultimately you know that several educated men in Kerala are jobless and driving an auto [rickshaw] and getting frustrated with the [political] system' (FG 2 2006).

Table 6.5: Rates of school dropouts for primary and senior students

NOTE:
This table is included on page 132 of the print copy of the thesis held in the University of Adelaide Library.

Source: (Government of Kerala 2007c)

The interview group also agreed that it was wrong on the part of the government to suggest opting for education loans and taking up professional education. The most common response from the interviewees was that often those who dropped out from school came from families that were struggling to meet their basic human needs. The parents were poor and had never attended school. Under these conditions, they could not provide appropriate guarantee to the bank to obtain study loans. Also, most participants believed that in Kerala the system of borrowing loans from banks was traditionally limited to the purposes of agriculture, marriages and emigration to the Gulf. Education loans were a new concept, which these people from socially disadvantaged groups were apprehensive to explore (FG 2 2006).

The box below presents an example of a well educated Keralite who has struggled to find a job in his field of interest. He argued that Kerala lacked suitable job opportunities in fields other than the conventional disciplines of engineering, medicine and academics. According to him, poor incentives from the government have further aggravated the resistance among the current generation's young adults towards obtaining any professional education (KCSS 11 2006).

Box 6.1: Case story 1

The researcher interviewed a bus conductor. The conductor belonged to a low middle class family from the Pathanamthitta district in southern Kerala. His father, a government school teacher, passed away in 1999. Despite financial pressures, since he had been an above-average student throughout, he continued to seek higher education. The conductor finally completed an M.Phil. in Psychology. After looking for jobs for about a year and a half, he finally applied to the state roadways for the position of a bus conductor and got his current job. He said he had the responsibility of getting his youngest sister married and taking care of his mother who could only speak *Malayalam*. As a result, he was unable to search for jobs outside the state. He felt that there was an acute lack of jobs in the state due to weak government initiatives. He believed he could have become a bus conductor without wasting almost six years in getting his professional degrees. He informed that he was not satisfied but 'actually frustrated' with life in Kerala on the whole, and would therefore, like to see his children find jobs either in the Gulf or settle in one of the neighbouring states of Karnataka or Tamil Nadu. According to him, 'Education in Kerala is not a promising reward'. (KCSS 11 2006)

The second reason that emerged from the group discussion for increasing school dropout rates was the importance of social mindsets and attitudes. A clear majority of the interviewees believed that the society in Kerala remained conservative and was therefore, not yet tolerant and open to high education and prosperity among children coming from socially less-privileged groups (FG 2 2006). To this extent, the respondents felt that although caste-system was formally non-existing in Kerala, its effects were still being borne by the lower classes. The box below demonstrates one such case of existing paradoxes in Kerala.

Box 6.2: Case story 2

Reena is a married woman with two kids. She is 27 years old. Her father was a police inspector who died in a road accident when she was sixteen. Her mother is a maid servant who does various cleaning and washing chores for different households. Reena finished school at the age of 17. Due to her father's untimely death, the family's financial conditions did not allow her to continue with further education. She wanted to start taking tuitions for primary school students. She thought she could take tuitions, earn money to support her family while also pursuing higher education through distance learning. She waited for about six months for students or their parents to approach her but no one showed up. Finally, she took up cleaning jobs just like her mother. Today, she works in a ladies' hostel where she is responsible for cleaning its bathrooms and other parts of the residential wing. She is paid a monthly salary of Rs 1500.[4] She works from 08 30 to 18 00 hrs, six days a week. She is married to a man who has lost his job recently and is therefore, exploring ways to go to the Gulf or Singapore. She sends her five year old daughter to school with the hope that the latter can get herself out of the clutches of poverty and the social stigma of belonging to a 'servant mother' unlike Reena herself. Reena feels that she could have definitely had a better life if people were supportive of acknowledging her as a fairly educated girl who could teach their kids than as a daughter of a servant. She believes that the society in Kerala is far too conservative. According to her, only a disadvantaged local will be able to understand the 'true depth of Kerala's orthodox social structure and the resulting frustration' (KCSS 5 2006).

The discussions in the boxes above thus suggest a deeper problem in Kerala's social sustainability planning. Lack of government incentives for students to continue school and subsequent professional education is argued as a potential threat to not only social but also economic and institutional sustainability in the state. The repercussions of poor education – both quantitative as well as qualitative – on Kerala's growing unemployment problem are further discussed in section 6.3. Poor quality of education along with the presence of a high percentage of school dropouts also impedes the successful translation of high primary education into long-term social and economic sustainability in the state (Baby 2007);(KCSS 4 2006). It may therefore, be argued that although primary school enrolment statistics are high in Kerala compared to the rest of India, there is an enormous scope for improving education

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[4] Rs (Indian Rupees) 1 equals AUD 0.03 (Calculation based on rates as of 13-Mar-2008)
Source: Commonwealth Bank, Australia

patterns and social thought processes to enhance the state's chances of achieving long-term socio-economic sustainability.

2) *Primary health*

Besides achieving a high rate of primary education, Kerala's planning for primary health services is also remarkable. Kerala's health statistics suggest that the annual population growth rate in Kerala is only about 0.93% against the national average of 1.95% (Centre for Development Studies 2005). The total fertility rate (TFR) in the state is maintained at a low 1.8, with subtle differences between urban and rural areas (Centre for Development Studies 2005). According to the literature, there are two main reasons for Kerala's low TFR. One, the average age of marriage in Kerala is high both among males and females (refer tables 6.1 and 6.3). Two, high literacy among females has resulted in increased awareness of the advantages of family planning (Tsai 2007). Besides, Kerala maintains low infant mortality (particularly among male children) and death rates (refer table 6.1) when compared to the national average.

However, like the inter-district disparities regarding education accessibility mentioned earlier, social health facilities in Kerala too are inequitably distributed between the northern and southern parts of the state (see table 6.6 below). Despite several attempts to plan for more equitable and accessible health centres and related services, the north of Kerala has remained deprived of basic health facilities. As a consequence, the northern districts maintain very high rates of infant mortality and total fertility within the state (table 6.6). According to Kerala's recent Human Development Report, 'the variability in infant mortality rate is low in Kerala, if we exclude the two outlier districts of Wayanad and Idukki' (Centre for Development Studies 2005, p.28). However, results from field discussions contradict Kerala's current planning approaches to sustainability. It was suggested – both by members of the government and the civil society – that the state *should* be considered as one entity for its social planning to be effective over long-term (KGR 3 2006; KCSS 3 2006). A researcher argued thus that it was inappropriate to 'draw attention to the positives in Kerala's development model without proposing a suitable solution to address deep-rooted challenges of inequity within the state … [such] attempts only misrepresent Kerala's true achievements' (KCSS 3 2006).

Table 6.6: Health disparities between northern and southern districts of Kerala

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of the print copy of the thesis held in
the University of Adelaide Library.
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Source: (Centre for Development Studies 2005)

Besides these inter-regional disparities, the results show that Kerala has two primary health issues that need to be dealt with on a priority basis. First, Kerala has recently witnessed a high rate of spread of infectious diseases (see table 6.7 below). Menon (2006, p.15) points out, 'A recent study revealed that morbidity is very high among the women in Kerala'. At the time of the current field study (September 2006), there was a severe outbreak of Chikungunya and Dengue across the state. There were a total of 125 deaths reported in Kerala due to the spread of Chikungunya in 2006 (Centre for Development Studies 2005). In fact, on a country-wide basis, Kerala has lately witnessed a steep rise in the spread of such communicative diseases (Government of Kerala 2007c). Negligent attention to hygiene – by the government and the locals – combined with improper waste management mechanisms has been observed to be a significant reason for such health-threatening outbreaks.[5]

The second health challenge that has slowly started to worry planners and government authorities in Kerala is ageing. Figure 6.1 below provides a comparative analysis of age-based population distribution in India and Kerala. As can be noted from the figure, the trend for population decrease in India as the population gets older is in sharp contrast to the trend in

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[5] Section 6.4 presents a detailed discussion on Kerala's environment and waste management measures.

Kerala. In the latter, the share of population rises almost steadily as the population age increases.

Table 6.7: Morbidity rates (per 1000) in Kerala (1996)

NOTE:
This table is included on page 137
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Centre for Development Studies 2005)

Figure 6.1: Comparative age-based population distribution in Kerala and India (1991)

NOTE:
This figure is included on page 137
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Government of Kerala 2007c)

Notes: * % of India's population for the corresponding age group
        **-% of total population

With low fertility and mortality rates, there is a continued increase in Kerala's old age population (see figure 6.2 below). In the last four decades, the percentage of population over 60 has increased from 5.9 to 10 (Centre for Development Studies 2005). While being a positive achievement in itself (longer life expectancies), such rapid demographic changes not only demand enhanced medical services and other related social arrangements (e.g. old age homes) but also exert huge pressure on Kerala's economic and social fabric. Health planning approaches therefore, call for attention from policymakers for long-term social welfare packages for the elderly.

Figure 6.2: Change in Kerala's 60+ population (1961-2021)
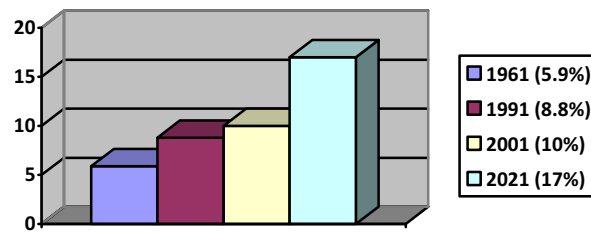
Source: (Centre for Development Studies 2005; Government of Kerala 2007c)

3) Gender equality

The planning approaches employed by Kerala to encourage gender empowerment have played an essential role in ensuring a generally high social development throughout the state. Kerala has traditionally maintained sociological and historical conditions that have positively influenced the development of Kerala's women, especially in the sectors of health and education (Ramachandran 1996) (refer table 6.1). However, despite such positive references in the literature, the study highlighted issues with respect to gender equality that have so far been partially addressed by the state's policymakers.

One of the females interviewed was a Malayali but was born and brought up in Bangalore (one of the biggest and the most cosmopolitan regions in the south of India, about 800 kilometres from Thiruvananthapuram). According to her, while the rest of the country was rapidly increasing its acceptance towards women seeking higher education and reaching senior positions at their work places, most women in Kerala continued to be limited to traditional jobs like cooking, housekeeping and taking care of their families (KCSS 8 2006). The fundamental reason, according to her, was Kerala's 'traditionalist society supported by its men' (KCSS 8 2006). Table 6.8 below presents female work participation rates in India and Kerala across urban and rural divides. It highlights that the total female work participation rate in Kerala is lesser than the all-India average.

Table 6.8: Rural - Urban female work participation rate in India and Kerala

NOTE:
This table is included on page 138
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Centre for Development Studies 2005)

In addition, table 6.9 below presents general gender empowerment indicators across all 14 districts in Kerala. Like other indicators for health and education, the performance of gender indicators in northern districts is low when compared with the southern more developed parts of Kerala. The researcher's personal observations further suggested a generally conservative nature of Kerala's society. Some of these observations included, *inter alia*, patterns of submissive behaviour of local women in public places, their traditional style of dressing, surprising and often shocking attention that the researcher – who was almost always dressed in Western clothes – gained from local bus and auto rickshaw drivers (means of transport that she used regularly), and also from some staff of the research institution and political offices that she frequently visited to collect material for the study. There were hardly any women seen in markets and other public places in late evenings. When enquired, the researcher was told that males from most families in Kerala did not encourage females to go out after it was dark (KCSS 7 2006; KCSS 3 2006). These and other similar field observations corroborate the above interviewees' views that Kerala's society was conservative and predominantly male-dominated.

Table 6.9: District-wise work participation rate for males and females in Kerala

NOTE:
This table is included on page 139
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Centre for Development Studies 2005)

Another growing concern in Kerala with regard to gender empowerment is a possible decline in child (juvenile) sex ratio over the last two decades (Centre for Development Studies 2005) (see

table 6.10 below). When compared, statistics in tables 6.3 and 6.10 suggest that the child sex ratio in Kerala is much lower than the adult sex ratio. The latter has lately raised doubts regarding a growing tendency among Keralites to prefer male child over girls. The literature further supports that there is an increasing trend of female infanticide in the state. About 50,000 female foetuses are aborted in Kerala on a yearly basis (Menon 2006). The sex ratio of 1052 females per 1000 men is slowly beginning to drop especially due to a steep decline in the percentage of female children under the age of six (Centre for Development Studies 2005; Menon 2006). According to an academic researcher, Kerala's socio-political fabric requires immediate reforms so that gender empowerment may be embedded into public's mindsets and the 'ever-growing patriarchal demands of the society are moderated' (KCSS 3 2006). Menon (2006) too takes a similar stance and suggests that a new thought process would help curb the practice of domestic harassment – highest in Kerala when compared to all other states in India – while also extending the rate of female participation in politics at the local and state level.

Table 6.10: Child sex ratio (female/male) in Kerala for 1991 and 2001

NOTE:
This table is included on page 140 of the print copy of the thesis held in the University of Adelaide Library.

Source: (Centre for Development Studies 2005)

The above arguments regarding the traditional society in Kerala and its conservative outlook towards females is further supported by the deep-rooted custom of dowry.[6] As a practice, dowry exists across all classes and groups – Hindus, Muslims or Christians; rich or poor – in Kerala. As a matter of fact, dowry rates in the state are one of the highest in the country

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[6] Dowry is the term given to the gifts (in the form of cash, utility and luxury items) that are presented by the bride's family to the groom's at the time of her marriage.

(Centre for Development Studies 2005); (KCSS 7 2006). Gender researchers argue that 'dowry death, bride burning, female infanticide and trafficking in women in many a forms have become notoriously in public, in large proportions.' (Lakshmikutty 2006, p.7) In some cases, huge dowry demands have led to complete family devastation for members belonging to the lower social strata. The story below exemplifies the degree of personal loss caused to a family due to the presence of dowry as a deep-seated social stigma.

Box 6.3: Case story 3

Kavita is a Christian house servant. She never attended school. Her father had a small candy shop in the fishing colony in Thiruvananthapuram and her mother is a housewife. Her father committed suicide when she was eleven. Her two elder sisters were married by then. Kavita and the rest of her family believed that her father was under severe pressure for arranging dowries for the two remaining daughters. He was already under huge debt. After her father passed away, Kavita managed the family shop for sometime while her unmarried elder sister went to serve the Church. Kavita now lives with her mother and has decided to remain unmarried. She believes that the biggest reason that led to her father's suicide was the social pressure in Kerala. She feels her father was frustrated with the system and that his helplessness led him to take such an extreme step. She suggests, 'Here [in Kerala], if you have daughters and no substantial resources to arrange for their dowries, your social standing is worse than someone who has no roof over his [her] head … It is no one's fault really, just [how] the society in Kerala thinks and works' (KCSS 4 2006).

Furthermore, the field study suggests that the weak gender situation in Kerala is only partly due to excessive dowry demands. High alcohol consumption by Kerala's males is another significant factor that is a constant threat to female empowerment at a family level. 'Malyalees have double standards, dual faces.' (Menon 2006, p.16) The state's rate of alcohol consumption is the highest in the country (Centre for Development Studies 2005) (see table 6.11 below).

Table 6.11: Per capita alcohol consumption in India and Kerala (2001)

NOTE:
This table is included on page 141
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Centre for Development Studies 2005)

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While alcohol consumption is not good in itself for the health of male population, it also has negative effects on the families, especially wives and daughters. The latter have been reported to be primary victims of resulting domestic violence and sexual harassment (Lakshmikutty 2006; Menon 2006). Besides, high alcohol consumption, according to a gender researcher, entails significant economic losses particularly for people belonging to the lower income groups (e.g. fishing communities), thereby resulting in greater violence at home (KCSS 7 2006). Uncontrolled consumption is thus gradually becoming a threat to Kerala's social stability and has drawn significant attention from policymakers. A government official argued, 'The money lost in purchasing liquor is essential for meeting a family's basic sustenance needs … [yet] the men do not understand and there is not much that can be done at the institutional level [without cooperation from the public]' (KGR 1 2006).

The combined effect of the two biggest threats to gender empowerment discussed above – constant dowry demands and reckless alcohol consumption – further leads to a bigger socially disintegrating practice of suicides. Dowry and domestic violence are two main reasons for females committing suicides (KGR 6 2006). In 2005, a total of 9810 suicides were committed, out of which 2540 (approximately 26%) were by females (Menon 2006) (see table 6.12 below). A large majority of suicides are committed in the age group of 21 to 40 years (Centre for Development Studies 2005). It is ironical that most suicides in Kerala happen in the most productive employment age. These arguments thus suggest that Kerala faces the challenge of losing its men and women through suicides – which is a result of several other factors discussed above – in their most productive years. As a consequence, it destructs and inhibits Kerala's planning for long-term holistic sustainability.

In summary, this section has argued that Kerala's social achievements – supported by the successful spread of primary education and basic health facilities across both sexes – have played a significant role in making it a model example for other regions in the developing world. However, the discussion has also revealed several issues that remain central to Kerala's plans of achieving holistic sustainability in the future. Inequitable access to education and health services in the northern districts, outbreak of deadly diseases, conservative societal attitudes towards women and high alcohol consumption rates are threats to Kerala's social sustainability. Based on these results, it is argued that there is much scope for further improvement in Kerala's efficiency in planning for social sustainability before the state may be truly referred to

as 'a model of social development' or 'a unique case of positive development in the developing world' or 'a sort of Scandinavia within the Third World'.

Table 6.12: District-wise suicide rates in Kerala (1995 and 2003)

NOTE:
This table is included on page 143
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Government of Kerala 2007c)

6.3   *ECONOMIC SUSTAINABILITY*

As discussed in Chapter One, this research aims to analyse the effectiveness of current planning approaches to achieve holistic sustainability. Various conceptualisations presented in Chapter Two have argued that holistic sustainability is determined by focusing on four primary issues – social, economic, environmental and institutional. The discussion above, which evaluated Kerala's performance in planning for social sustainability, further suggests that several social dilemmas in Kerala including education quality, population changes and alcohol consumption affect its economic development by a significant measure. This section therefore, aims to examine on the one hand, Kerala's economic planning efficacy to understand its contribution in achieving long-term holistic sustainability. On the other hand, it explores the relationship between Kerala's social and economic sustainability by highlighting the state's primary economic achievements and challenges. To begin with, the section presents a background on Kerala's economic development. It is then followed by a discussion on Kerala's economic achievements which have positively altered the state's economic situation. Finally,

the section examines the causes and effects of two of Kerala's most debated economic challenges: unemployment and migration.

6.3.1   Kerala's economic evolution

Kerala has an approximate State Domestic Product (SDP) of Rs 800 billion with an average per capita income of Rs 25, 764 (Government of Kerala Census 2000). Kerala's economic progression has often been discussed in the literature as slow and one that has followed an unconventional path (Parameswaran 2000; Centre for Development Studies 2005). Unlike the rest of the country that has slowly progressed from being dependent on primary sector (agriculture) to secondary (industrial production and manufacturing) and then subsequently to the tertiary sector (service industry, Information Technology, hotel and tourism), Kerala transferred its main source of economy from primary to tertiary sector directly many decades ago (see table 6.13 below).

The history of Kerala's economic progress can be divided into three main phases, phase 1 up to the late 1960s and early 70s, phase 2 from the mid-70s to early 90s and phase 3 from the early 90s to present (Centre for Development Studies 2005; Prakash 2006). The first phase witnessed the decision on land reforms and was therefore, focussed around agriculture. There was a clear dominance of traditional industries of coir, cashew and handloom. The overall productivity – in agriculture as well as traditional industries – was low. Phase 1 therefore, witnessed an extremely slow economic growth rate. This was directly responsible for high levels of poverty and unemployment during that decade. The approximate percentage of poor was 75% while the unemployment rate was a high 10% (Prakash 2006).

Table 6.13: Economic development in Kerala and India

	Sectoral growth rate				Sectoral contribution to SDP/GDP growth rate (%)			
	Kerala		India		Kerala		India	
	P1	P2	P1	P2	P 1	P 2	P1	P2
Primary sector	-0.14	2.9	2.69	3.47	-4.23	14.02	27.55	17.44
Secondary sector	2.38	6.13	5.02	6.53	33.62	21.86	26.51	26.52
Tertiary sector	3.28	7.55	5.19	7.48	70.61	64.12	45.95	56.04
Aggregate	1.89	5.79	4.08	5.98				
Per capita SDP/GDP	0.52	5.03	1.87	4.01				

Source: (Centre for Development Studies 2005)
Note: P1: 1970-71 to 1986-87; P2: 1987-88 to 2002-03.

The biggest development which took place in the second phase of Kerala's economic transformation was the rapid migration of its people to countries in the Gulf. The trend has continued ever since but the largest effect of migration was felt between the periods of 1980 to 1995 (Zachariah, Mathew and Rajan 2003). There has been a two-fold economic advantage of migration: while the problem of domestic unemployment could be readily addressed, the money received as remittances from the Gulf increased. It is reported that in the years between 1980 and 1990, the total amount of remittances increased from Rs 824 crore to 1310 crore (Prakash 2006).[7] The incoming money provided a strong foundation in fuelling Kerala's socio-economic growth, the pace of which has drastically increased in recent times (Zachariah, Mathew and Rajan 2003).

Currently, Kerala is in its third phase of economic transition that started around the middle of 1990s (Prakash 2006). The phase highlights planned focus on developing infrastructure, private investment, Information Technology (IT) services and tourism. Most of these services integrated into the umbrella of India's primary economic activities more than a decade back; Kerala has been relatively late in exploring business opportunities in these sectors. Nevertheless, over the last few years, the state government has made concerted efforts to develop the above service oriented sectors. The state's policymakers believe that investments in these areas will play a decisive role in shaping the future of Kerala's social, economic and institutional sustainability (KGR 3 2006).

6.3.2   Kerala's economic planning achievements

Of the many attempts made by the state government to enhance economic development, two sectors have made huge advances: tourism and Information Technology. These are the state government's new ventures in its service-based sectors. Development in both sectors is rather recent but its significant contribution to Kerala's financial figures has resulted in prioritised focus from the state planning authorities. This section discusses the rise in the state's tourism and Information Technology business and their role in boosting Kerala's economic situation.

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[7] 1 crore equals 10 million

1)   Tourism

As a lucrative business opportunity and a quick source of revenue, tourism has found a stronghold in Kerala's Vision 2010 which has already been discussed in a previous section. It is also the first of the '10+3+3 Missions' identified by the state government for Kerala's development and poverty alleviation. Vijayakumar (2007, p.11) argues, 'Kerala is the pioneer in India to identify the economic potential of tourism … the state has set a strong footing for inclusive growth of tourism for achieving sustainability'. The state's policymakers, with support from the central government, have been rapidly increasing their focus on promoting tourism in Kerala (KGR 6 2006). Such massive government support to expand the tourism industry is further strengthened by three national awards presented to the state by the Central tourism ministry recently (Government of Kerala 2007a).

Tourism industry provides 6.2% of the total employment opportunities in the state (see table 6.14 below). There is a sudden rise in both domestic and international tourists. While there was an approximate increase in the former by 31% between 1998 and 2003, the increase in the number of international tourists has been greater – almost a 55% rise over the same time period (Thomas 2007) (see table 6.15 below). The total income from tourism and related businesses for 2003 was approximately Rs 41 billion (Thomas 2007). Taxes from tourism form a large percentage of the total revenue for the state. The kind of employment in the tourism industry varies from government to private jobs. It was observed that tourism has particularly benefited the low middle class population in Kerala through increased business opportunities and greater sales margins (KCSS 4 2006). Despite the economic benefits, the study also suggested that the sudden growth of the tourism industry has led to severe impacts on Kerala's natural resources and the environment. These are discussed in detail in section 6.4.

Table 6.14: Employment in tourism sector (2003)

Type of employment	Number of opportunities created	% of total employment
Direct	3.8 lakh*	3
Total (direct & indirect)	7.8 lakh	6.2

Source: (Centre for Development Studies 2005; Government of Kerala 2007c)
Note: * 1Lakh equals 0.1 million

Table 6.15: District-wise % change in foreign-tourist arrival (2002-03)

District	% change in number of foreign tourists
Thiruvananthapuram	45.4
Kollam	1.7
Pathanamthitta	62.1
Alappuzha	51.5
Kottayam	6.9
Idukki	28.9
Ernakulam	14.5
Thrissur	34.8
Palakkad	8.2
Malappuram	33.8
Kozhikode	10.3
Wayanad	14.7
Kannur	41.8
Kasargod	18.8
Kerala	*26.7*

Source: (Centre for Development Studies 2005; Government of Kerala 2007c)

2) *Information Technology*

Besides the expansion of tourism in the state, the government has also extensively focused on the growth of businesses related to Information Technology. While the capital cities of the neighbouring states of Karnataka and Tamil Nadu – Bangalore and Chennai respectively – had established multinational Information Technology businesses fairly early on, Kerala has initiated to explore economic opportunities in this field only by the start of the current century. However, the progress made by the state in the last few years is commendable. According to the latest statistics, there has been a 50% growth in software exports from Kerala for the financial year 2006-7 (Government of Kerala 2007f).

The state government has been making continuous efforts in enhancing Information Technology opportunities (KGR 2 2006; KGR 4 2006). Technology parks in the two major cities of Thiruvananthapuram and Kochi have already been established. The 'Technopark' in Thiruvananthapuram, located in a satellite town about 15 kilometres from the main city, is spread over an area of 300 acres and maintains approximately 100 operational local and national companies. Due to its massive infrastructural investments, Technopark has been declared one of three biggest IT parks in India (Technopark 2003). There is therefore, no doubt

that the Information Technology business has provided Kerala with vast employment opportunities and substantial financial resources to boost its economic progress.

The researcher contacted some employees of the Technopark. Most of them were from Kerala while the rest came from other states, mainly from the south of India. A large number of these employees were females. When enquired regarding their perception of Kerala's development progress, a female employee from Kollam – a district close to Thiruvananthapuram – suggested that Kerala has been 'rather slow [in developing a strong economic base] and that was [the reason] why many of our family members had to go to countries in the Gulf to find jobs' (FG 3 2006). A majority of these people believed that the current Information Technology sector in Kerala could help the state achieve both national and international economic recognition (FG 3 2006).

Many of these interviewees also argued that besides direct economic benefits, penetration of Information Technology into the larger social spheres in Kerala could finally help open doors to globalisation, which has so far been strongly rejected by most of the state's conservative governments. The average age of the employees who were interviewed was 27. Being a part of India's new generation, most of them believed that Kerala's institutional and social arrangements should become more open to globalisation. One female respondent suggested, 'There is no hope in protecting your culture and allowing the world to label you an orthodox society, if locals continue to remain jobless and prone to commit suicides' (FG 3 2006). The group thus agreed that Information Technology was perhaps the most useful tool to promote globalisation. The latter would, in turn, help Kerala address its social and economic challenges both qualitatively and quantitatively.

6.3.3   Economic planning challenges – causes and effects

Several consultations in the field suggested that despite rapid expansion in its economic resource base, the course of a large majority of Kerala's fundamental economic problems has not changed much. Despite several attempts at the state level, economic development in Kerala has been unable to address the 'burning problems' of unemployment and migration (Zachariah and Rajan 2005). Unemployment rates continue to rise and emigration to the Gulf remains the *only* probable alternative for most Keralites belonging to the lower middle class

(KCSS 7 2006). The implications of these issues on Kerala's long-term economic sustainability are discussed in the remaining part of this section.

1) Unemployment

A feature that stands out when studying Kerala's economic progress is the high unemployment situation in the state. According to the latest data available from Zachariah, Mathew and Rajan (2003), Kerala's unemployment rate is estimated at 19.2%. There were approximately 1 million unemployed people in Kerala between 1998 and 2003. According to the data recorded for 1998, female unemployment was close to 49% (Zachariah, Mathew and Rajan 2003). Muslims remain the largest group of unemployed people in the whole state.

According to Casinader (2000, p.206), high unemployment has persisted in Kerala – despite high rates of education – due to its 'development process that produced an economy that was unable to absorb the human capital it created'. However, the study reveals a multitude of other causes that are responsible for a state-wide high rate of unemployment. According to a government representative, 'The situation in Kerala is strangely ironical' (KGR 2 2006). He blamed strong unionisation, a long history of public mobilisation and active labour and trade unions for high labour wages in Kerala (see table 6.16 below).

Table 6.16: Daily wages for labourers in ten Indian states (2001)

NOTE:
This table is included on page 149
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Zachariah, Mathew and Rajan 2003)

A social researcher further supported the above argument by suggesting that:

> Keralites have double standards. They are not ready to do a small job in their own region … [However] they are ever ready to participate in strikes and union meetings. The same person

> [when] goes to the Gulf, does all kinds of lowly jobs from cleaning toilets to mining to living under terribly inhuman conditions (KCSS 4 2006).

According to the respondent, society in Kerala has been unionised to an extent that for labour-intensive jobs, the wage demands are often exorbitant. Besides, assured flows of remittances from the Gulf have also played an important role in developing a social ethic that is unfavourable towards manual jobs (KCSS 4 2006). Such attitudes combined with high wages have led to an inflow of workers from other parts of the country like Tamil Nadu, Uttar Pradesh, Bihar and Orissa (Zachariah, Mathew and Rajan 2003; Government of Kerala 2007c).[8] The employers too prefer in-migrant labourers for reasons of low wage demands and almost negligible degree of unionisation (KCSS 9 2006). To this extent, unemployment in Kerala has not only been a direct effect of slow economic growth but has also acted as an indirect cause for the same. This latter equation is particularly perplexing with regard to Kerala's planning for future economic sustainability. The study suggests that several policymakers and bureaucrats in Kerala are worried regarding the implications of excessive unionisation. According to a senior bureaucrat, 'even if Kerala's industrial base expands, the mindsets of people and the negative strengths that unionisation offers are difficult to be altered' (KGR 2 2006).

Furthermore, discussion with a researcher on population and migration revealed that poor quality of education in Kerala has played a decisive role in encouraging the state's high unemployment rates. According to the interviewee,

> [Keralites] are crazy. They say they are unemployed … the fact however, remains that they are unemployable. There is a very small percentage of school going kids who pass and go for higher education. The rest remain either failed school dropouts or school pass but without any professional qualifications (KCSS 2 2006).

The researcher further explained that most job seekers in Kerala were only literates; they lacked formal education (see table 6.17 below). As a result, such people have traditionally been appropriate only for 'tough manual jobs' (KCSS 2 2006). However, due to a combined effect of strong unionisation, demand for high wages (and resulting competition from immigrant labourers) and false social pride, the tendency among such non-professional literates has been to resist local labour-intensive jobs.

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[8] The latter three are the three poorest states in India (Planning Commission 2002).

Table 6.17: Distribution of job seekers in Kerala based on education level (1990-2000)

> NOTE:
> This table is included on page 151
> of the print copy of the thesis held in
> the University of Adelaide Library.

Source: (Government of Kerala 2007c)

This observation thus suggests another dimension to Kerala's inherent irony. For a sustainable 'knowledge economy', more than plain literacy is essential. Therefore, while the state maintains one of the highest rates of primary literacy in India (table 6.1), the widespread lack of professional or technical expertise has resulted in making Kerala home to the largest unemployed population in India (see table 6.18 below). Migration to the Gulf thus comes into play as a quick solution to escape the domestic unemployment situation. While the quality of jobs offered in the Gulf are not any better, the social status and the potential of greater savings make Gulf the preferred place to work for most Keralites who lack a professional education (KGR 4 2006; KCSS 7 2006; KCSS 8 2006).

Table 6.18: Unemployed population as % of total labour force in main Indian states

> NOTE:
> This table is included on page 151
> of the print copy of the thesis held in
> the University of Adelaide Library.

Source: (Centre for Development Studies 2005)

2) *Gulf migration*

Large-scale migration to the Gulf has played a significant role in changing the course of Kerala's economic development (see tables 6.19 and 6.20 below). The contribution of Gulf remittances to the state's social and economic sustainability planning is thus immense both qualitatively and quantitatively (Zachariah, Mathew and Rajan 2003).

Table 6.19: Contribution of remittances to Kerala's economic development

NOTE:
This table is included on page 152
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Zachariah and Rajan 2005)

Interviews and observations in the field point out a strong psychological presence of migration in the society. There are suggestive cases where shops along the national highway are called 'Gulf Plaza', 'Dubai Tyres' and 'Saudi Gift Arcade'. According to the table above, total remittances – in the form of money and material goods received – amount to about 10.7% of Kerala's SDP and is approximately three times the aid received by the state from the centre (Centre for Development Studies 2005). Such massive contribution from employment in the Gulf has led Kerala's economy to follow a trajectory that has surprised governments and researchers worldwide. These statistics further suggest that although Kerala has ventured into tourism and Information Technology businesses as explained earlier, its reliance on remittances from the Gulf continues to remain very high.

Table 6.20: Rate of emigration per 100 households in Kerala (1998)

NOTE:
This table is included on page 152
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Zachariah, Mathew and Rajan 2003)

Tables 6.21 and 6.22 below suggest favoured destinations for emigration from Kerala. The total percentage of emigrants to the USA has more than doubled since 1998 while UAE has become a more popular destination than Saudi Arabia within the Gulf region in recent times.

Table 6.21: Emigration destinations from Kerala

Destination	% of total emigration	
	1998	2007
Gulf	95	89
USA	2.2	5.7
Others	2.8	5.3

Source: (Zachariah, Mathew and Rajan 2003; Government of Kerala 2007c)

Table 6.22: Popular destinations in the Gulf

Countries	% of total emigrants to Gulf	
	1998	2007
Saudi Arabia	38.1	24
UAE	29.7	42
Others	32.2	34

Source: (Zachariah, Mathew and Rajan 2003; Government of Kerala 2007c)

According to the state's latest economic survey, approximately 95% of the total emigrants to the Gulf are males (Government of Kerala 2007c). The average age of emigrants for males and females is 26.8 and 22.7 years respectively (Nair 2006). Approximately 90% of the total male migrants leave their families in Kerala (Zachariah, Mathew and Rajan 2003). These emigrants subsequently return to their families in the age group of 40-55 years. Muslims are the biggest group of emigrants in the Gulf (see table 6.23 below) (Nair 2006; Government of Kerala 2007c).

Table 6.23: % of total emigrants from Kerala based on religion (2007)

NOTE:
This table is included on page 153
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Government of Kerala 2007c)

Unskilled manual workers form Kerala's single largest group of migrants to the Gulf (Zachariah, Mathew and Rajan 2003; Zachariah and Rajan 2005). Most of these people are school

dropouts and have become tradesmen with the intention of migrating to the Gulf in search of better employment and remuneration opportunities. There are very few degree holders among people from Kerala working in the Gulf (Zachariah, Mathew and Rajan 2003); (KGR 3 2006).

According to the field study, Gulf remittances not only contribute towards enhancing the state's economy (as suggested by table 6.19 above) but are also steady sources of income to several families in Kerala (see table 6.24 below).

Table 6.24: Proportion of households receiving remittances from abroad (1998)

NOTE:
This table is included on page 154
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Zachariah, Mathew and Rajan 2003)

A Muslim girl from Malappuram who was working in the Technopark informed that her parents could afford to send her to school only because her father was employed in Sharjah (the Middle East) as an electrician (FG 3 2006). She also advised that at the time when her father was away, at least one male member from each household in her local area was in the Gulf (FG 3 2006). Her statement further supports the literature that Malappuram – a predominantly Muslim district – has the largest proportion of emigrants to the Gulf, approximately 18% of the total emigrants (see tables 6.20 and 6.25) (Centre for Development Studies 2005; Nair 2006). This is quite high compared to Malappuram's share of Kerala's total population.

The field study suggests that increased inflow of remittances has also led to growing consumerism in the state (KGR 3 2006; KGR 6 2006). According to Rajan and Chandrasekar (2007, p.34), 'Keralites, who form nearly 3.5% of the country's total population, consume almost 10% of the consumer goods produced in India'. The material luxuries that were earlier inaccessible to the largely unemployed population, are now finding a huge base in Kerala (Zachariah, Mathew and Rajan 2003). In this context, a researcher from a civil society organisation further argued that unlike other states in India, abject poverty in Kerala existed

only in certain social sections (KCSS 4 2006). According to her, Kerala's big cities have not witnessed any local cases recently where deaths have occurred entirely due to hunger and starvation. This was, she suggested, due to 'the growing Gulf money' (KCSS 4 2006). At the same time however, as highlighted in table 6.26 below, there is an increasing consumption gap between emigrant and non-emigrant families that is contributing to increased socio-economic inequalities. The latter, in turn, threatens Kerala's traditional social stability.

Table 6.25: District-wise % share of emigrants and total population

District	% of total emigrants (2007)	% of total annual remittances in cash (1998)	% share of total population (2001)
Malappuram	18.2	17.1	11.4
Kannur	13.8	5.7	7.6
Thiruvananthapuram	10.2	9.9	10.2
Thrissur	9.2	13.6	9.3
Kollam	7.9	7.6	8.1
Ernakulam	7.7	12.9	9.7
Alappuzha	6.2	6.4	6.6

Source: (Zachariah, Mathew and Rajan 2003; Centre for Development Studies 2005; Government of Kerala 2007c)

Table 6.26: District-wise consumer index for emigrant and non-migrant groups (1998)

NOTE:
This table is included on page 155 of the print copy of the thesis held in the University of Adelaide Library.

Source: (Zachariah, Mathew and Rajan 2003)

There is no doubt that remittances from the Gulf have lifted many people out of their disadvantaged socio-economic status and have increased their accessibility to material luxuries of life. Nevertheless, extensive labour migration has led to several social impacts on the family and the larger community (Zachariah, Mathew and Rajan 2003). According to a female whose husband was in the Gulf for twenty years:

> [My husband] went out to make money and left me with the responsibility of taking care of his parents and children ... [During this time] he hardly bothered to enquire how I was managing the entire household on my own. Now he is back and interferes in every small decision that I need to take for the family. I am not used to such lifestyle and this has often resulted in arguments and violence affecting my whole family (KCSS 5 2006).

The above argument was further supported by a researcher on gender. According to her, due to several years of living and managing on their own, women have been used to increased autonomy (KCSS 3 2006). As a result, return emigrants who interfere with family decisions are not highly regarded by their wives (KCSS 3 2006). Further, women married to emigrant men face several other psychological tensions listed in table 6.27 below.

Table 6.27: Adverse consequences of male emigration on wives and families

NOTE:
This table is included on page 156
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Zachariah, Mathew and Rajan 2003)

Social effects of Gulf migration have also been felt in cases where females have been married to men who had been living abroad for many years before marriage. The researcher was informed that in certain cases it was difficult to establish the absolute identity of a prospective husband due to his long absence from India (KCSS 3 2007; KCSS 5 2007). This has often resulted in long-term sufferings for both families, especially the wife (see box 6.4 below).

The results thus suggest that migration has serious implications for Kerala's society, especially for its female population. In Kerala, where every eighth married woman lives away from her

husband, migration certainly brings with it many adverse consequences (Zachariah, Mathew and Rajan 2003). In light of the arguments made in the previous section that 'real' gender empowerment in Kerala is low and that women are generally submissive and conventionally brought up, migration further leads to a huge social burden for Kerala's females. According to a researcher working on gender in Kerala, 'In such circumstances, the social consequences of migration far exceed the economic relief it brings' (KCSS 3 2006). The results of a state-wide survey discussed by Zachariah, Mathew and Rajan (2003) further corroborate the arguments made above. The survey results suggest that given an option, the wives of Gulf emigrants would prefer to have their daughters married to men settled within Kerala (83%) than in the Gulf (14%) (Zachariah, Mathew and Rajan 2003).

Box 6.4: Case story 4

Neeta is a 27 year old woman. She has an M.Sc. degree in Physics. She belongs to a lower middle class family. Her father died when she was 17. She was married at the age of 23. Her husband was 10 years older than her. He was working in Saudi Arabia at the time of their marriage. Three days after the wedding, her husband went away to the Gulf leaving her with his parents. She had the responsibility of managing the household as well as taking care of his ailing parents. Neeta never saw him again. After about 10 months, the local police called her to inform that her husband had committed suicide in Saudi Arabia. Neeta does not know the reason for her husband's death to date. She knew very little of him and hence was unable to ascertain a probable cause. His body was sent back to India and after the cremation, Neeta came back to her mother's house. Her mother's financial position was already weak as she had spent all her savings in organising Neeta's marriage and dowry. Neeta's younger brother was still studying at the time. Now her mother wants Neeta to get married again but there is not enough money. Neeta works as a sales assistant in a local shop for a small salary. Her brother did not finish graduation and decided to go to the Gulf to earn money to get Neeta married. Now he sends home Rs 15,000 every month. For the first six months however, this money will be used to repay the loan that the family had to borrow to arrange for her brother's visa and tickets. Neeta strongly feels that such incidents are not uncommon in Kerala. She suggests that migrants in a certain way have been able to captivate a lot of families through their high savings. She believes she had a right to know more about her husband. However, according to her, such an act would never be considered socially permissible in Kerala, given its conservative society and her own family background (KCSS 9 2006).

In conclusion, the discussion above has argued that Kerala's policymakers have lately witnessed success in exploring economic opportunities in the areas of tourism and Information Technology. These services have shown a huge potential for the creation of suitable *'in-house'* employment opportunities besides advancing the state's revenues. However, Kerala's economic planning has largely remained ineffective thus far in addressing the 'burning issues' of unemployment and Gulf migration. Poor quality of education, false social status and high levels of unionisation are primary causes for high unemployment in the state. A consequence of the latter is large scale migration to the Gulf countries, thereby increasing social and psychological demands on the families. In light of these observations, it may be argued that economic sustainability planning in the state requires an extensive institutional reorganisation of conventional social and economic arrangements that have so far restricted Kerala's progress towards holistic sustainability.

6.4   ENVIRONMENTAL SUSTAINABILITY

As discussed previously in the thesis, besides social and economic dimensions, focus on the environment is a critical aspect in planning for holistic sustainability. At the same time, socio-economic settings play a significant role in determining the environmental sustainability of a region. The field study suggests that the argument holds true for Kerala where lack of social awareness about the environment, unhygienic living conditions, increased consumerism as a result of Gulf migration and widespread tourism are important socio-economic issues that have adversely impacted Kerala's rich natural resources and its environmental quality. This section firstly provides a background on Kerala's natural resources and subsequently discusses some of the most serious environmental challenges threatening the state government's vision of holistic sustainability. In doing so, it evaluates the efficacy of planning approaches adopted by the policymakers to pursue long-term environmental sustainability in Kerala.

6.4.1   Kerala's environment and natural resources

Kerala is often referred to as 'God's Own Country' (Padmakumar 2007). The use of such a metaphor is a result of Kerala's abundant natural resources and its pristine environment. With approximately 126 rainy days per year, it is no wonder that Kerala is one of India's most naturally green states (Dileep 2007). Kerala's physical environment and location add to its

beauty and natural charm. The state is bounded on one side by the Arabian Sea and on the other by the Western Ghats. This not only gives Kerala a very long coastline but also a huge cover of dense forests and wildlife. Kerala has 41 rivers which flow westwards towards the Arabian Sea (Dileep 2007). Before entering the sea, most of these rivers form backwaters; the latter continue to be Kerala's unique natural attraction. The state maintains approximately 3800 square kilometres as protected area through a chain of 12 wildlife sanctuaries and 3 national parks. According to Dileep (2007, p.21), 'Unquestionably, natural heritage is the cardinal USP [Unique Selling Point] of 'God's Own Country''.

Of the total length of the Western Ghats (approx. 1600 kilometres), almost 42% lies in the state (Padmakumar 2007). This covers approximately 56% of the total land area of Kerala. The state has a forest cover of about 11,221 square kilometres – approximately 28% of the total state area (Ouseph 2006). Kerala is home to 10,035 floral species – 22% of India's total plant species – of which about 102 are endemic (Padmakumar 2007). One of the most endemic ones is the exotic *Neelakurinji* that blossoms once every twelve years. It was last seen in October 2006. The wildlife and other fauna presence in the state is about 30% of India's total (Dileep 2007; Padmakumar 2007). Many animals like *Nilgiri Langur*, *Nilgiri Tahr* and *Malabar Civet* are endemic to the region.

Kerala therefore, maintains a beautiful mix of abundant wildlife, lush green and dense forests and a long coastline. It is due to the presence of these bountiful natural resources that the National Geographic Traveller has declared Kerala one of the world's 50 greatest destinations to be visited in a lifetime (Thomas 2007). However, Kerala's environmental resources – undoubtedly critical for its socio-economic advancement – are in great peril. The most important environmental challenges faced by Kerala's planning authorities are a result of excessive tourism, short-term institutional decisions, and poor waste management mechanisms. Each of these is discussed below in detail.

6.4.2   Environmental planning challenges – causes and effects

1)   Tourism

Although tourism has helped enhance the state's economic development (as explained earlier), its uncontrolled expansion is becoming the biggest cause of worry for the state's policymakers

and local environmentalists (KGR 2 2006; KCSS 6 2006). There are growing concerns regarding damage to the environment and exploitation of natural resources. It is feared that reckless tourism could soon lead to the destruction of Kerala's pristine nature including wildlife, beaches and backwaters. As Padmakumar (2007, p.40) suggests, 'The greatest threat that haunt [*sic*] Kerala … in this new century is the near crisis situation owing to degradation and destruction of unique habitats and topography and the unabated loss of biodiversity'.

While the government is making constant attempts to expand tourism as a business proposition, there is hardly any effective mechanism in place to control the aftermath of tourism. As one journalist informed,

> people from everywhere flock in to see the beauty that Kerala has to offer but leave it ugly and dirty in return … I wish [the state] government could act more stringently towards the reckless use of beaches and other natural resources rather than being thankful to these one-time tourists for bringing their monies into the state (KCSS 6 2006).

As the second most densely populated state in India combined with increasing housing demands as a result of remittance inflows, Kerala faces a huge challenge in maintaining its environmental quality (Padmakumar 2007). Besides, constantly increasing rates of domestic and international tourists (table 6.15) further create pressure on the state's environment, thereby often leading to its exploitation and misuse. In other words, the overall state of Kerala's environment remains alarming (Korakandy 2000).

With recent changes in the state government, focus on the environment has increased. The latter is evident from programs like 'responsible village tourism' that have been undertaken at the state level with support from the central government (Government of Kerala 2007d; Government of Kerala 2007i). Village tourism is expected to encourage responsible behaviour among tourists and the local workforce. In return, this will help in planning for holistic sustainability by taking into consideration the local socio-cultural (encouraging social empowerment and promoting indigenous culture), economic (increasing opportunities for local employment and village self-sufficiency) and environmental (preserving natural surroundings by using traditional knowledge) issues. *Aranmula*, a village in the Pathanamthitta district of Kerala has bagged the national award for its efforts in fostering responsible tourism at the local level (Government of Kerala 2007k). The village has focussed on preserving its cultural heritage and promoting local resources and activities. According to a state government official, the concept

aims to bring together 'environment, nature and finance, along with the thinking that natives should also benefit from the growth in the tourism sector of a region' (Government of Kerala 2007i, p.8).

However, being a relatively new concept, it is too early to consider the extent to which responsible tourism is implemented across Kerala's social, economic and environmental arrangements. Meanwhile, the negative impacts of tourism 'commercialisation' continue to affect Kerala's natural resources and environmental quality (Centre for Development Studies 2005). Water pollution – in beaches, backwaters – is one such direct consequence of uncontrolled tourism expansion.

2) Water and air pollution

A member of the fishing community settled around Kovalam – one of the most visited beaches in the country – suggested that high occurrence of tourists almost throughout the year has led to widespread littering and pollution of beaches and the sea (Centre for Development Studies 2005); (FG 1 2006). The state's fish count has reduced due to increasing tourism-related artificial disturbances in the sea. The latter has, in turn, strongly affected the business of the community and hence, their sources of livelihood (Sudhi 2008).[9] According to a focus group participant, the beach has become dirtier in the last half a decade and has become a breeding ground for dogs and mosquitoes. 'The level of hygiene around Kovalam has been decreasing constantly'. (FG 1 2006)

Furthermore, it was observed that water pollution in Kerala has not only adversely affected the beaches but also other natural resources along the coast. Houseboats dump huge quantities of solid wastes (primarily, sewage discharge and plastics) into Kerala's backwaters, thereby resulting in large-scale pollution (Special Correspondent 2006) (see table 6.29 under waste management). The absence of any effective instruments to gauge the amount of waste generated from these houseboats adds to the incompetence of the environmental authorities in controlling backwater pollution. According to a journalist, limited environmental awareness among houseboat oarsmen and management staff has been a key factor responsible for poor environmental quality in the backwaters (KCSS 6 2006). Besides tourism, several small and

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[9] These arguments are made based on focus group discussions with two fishing communities in Thiruvananthapuram. There is limited data available on direct environmental impacts of tourism in the state.

large industries account for approximately 6.5 million cubic meters of effluents discharged into Kerala's water on a daily basis (Special Correspondent 2006; KSCTE 2007).

Apart from the dilapidated state of Kerala's coastal waters, air pollution in Kerala has also slowly become a serious cause of concern for the state's policymakers and civil society (see table 6.28 below). High rates of CO_2 (mainly transport-related) and methane (mainly agricultural) emissions have been reported. There have also been cases in the past where lives have been lost owing to careless pesticide spraying and coastal water contamination (Rajendran 2002; Prasanna 2007).[10] It is believed that short-term use of some pesticides has resulted in long-term health issues like cancer and tuberculosis for the locals (KCSS 6 2006).

Table 6.28: Air pollutants in Kerala

NOTE:
This table is included on page 162
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Government of Kerala 2007c)

Furthermore, the researcher observed that traffic infrastructure in Kerala was generally old. Buses are a preferred means of communication for the general public. The Kerala State Road Transport Corporation's (KSRTC) total fleet strength has increased from 900 buses in 1965 to 4600 in 2007 (KSRTC 2006; Government of Kerala 2007c). However, approximately 45% and 25% of the existing bus fleet is more than 7 and 10 years old respectively (KSRTC 2006; Government of Kerala 2007c). The researcher's own observations regarding the condition of local and state buses corroborate the above argument. In addition to buses, auto rickshaws are also widely used within the city. Both buses and autos run on diesel, thereby leading to high levels of air pollution.

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[10] In the 1970s, cashew plantations in Kerala were aerially sprayed to kill pests. Blood samples collected from villagers suggested that each resident's blood had 'endosulfan residues several hundred times the residue limit for water' (Rajendran 2002).

Besides, private automobile traffic in Kerala (cars, motor bikes, scooters etc.) has also increased tremendously over the last few decades. Average vehicle population growth rate is 13% in the state. Poulose (2006) suggests that in Thiruvananthapuram alone, the total number of private vehicles has multiplied beyond control in the recent past (see figure 6.3). Between 1966 and 2006, the number of private vehicles has increased from 8000 to approximately 0.35 million (Poulose 2006). This sudden rise in vehicle ownership – with little improvement in road infrastructure – has resulted in Kerala having the highest rate of accidents in India (15 accidents per 1000 vehicles, almost twice the all-India average) (Government of Kerala 2007c). At the same time, high growth in vehicle population has been disastrous for Kerala's air quality, especially due to high CO_2 emission rates as suggested above in table 6.28.

Figure 6.3: Rise in motor vehicle ownership in Kerala (1990-2007)

NOTE:
This figure is included on page 163
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Government of Kerala 2007c)

3) Waste management

Besides the need to control rampant air and water pollution, the issue of solid waste management is also disturbing authorities and policymakers throughout the state (Centre for Development Studies 2005) (see table 6.29 below). The lack of suitable waste management mechanisms in Kerala is addressed by Gopikrishna and Kumar (2006, p.13) who maintain:

> In Kerala, generation of municipal solid waste, industrial hazardous waste … have been rapidly increasing due to population growth, lifestyle changes, economic development … but the waste management techniques have not kept pace with the increasing quantities.

According to a journalist from Thiruvananthapuram, the state and local authorities have remained uninterested in planning and executing efficient waste management mechanisms (KCSS 6 2006). The state's Minister for Local Self Government Institutions (LSGIs), *Paloli Kutty* (2006, p.6), provides credence to the journalist's argument by suggesting, 'The biggest problem

Kerala faces is pollution. Presently there is no system for culturing filth scientifically … The greatest problem cities face is the solid waste'. He considers environmental sanitation an essential element to help Kerala sustain its socio-economic achievements in the long run.

Table 6.29: Waste generation in Kerala's coastal districts (2007)

NOTE:
This table is included on page 164 of the print copy of the thesis held in the University of Adelaide Library.

Source: (Government of Kerala 2007c)

The seriousness of poor waste management in Kerala is highlighted by the recent outbreak of deadly diseases like Dengue and Chikungunya fever. In total, 3800 cases of Dengue were reported alone in 2005 (KSCTE 2007). While Kerala's share of India's total population is only 3%, the state has contributed to 8% of the country's total Dengue cases each year since 2001 (KSCTE 2007). According to a health worker, while the government has lately taken a variety of initiatives to address the problem of managing waste, the society at large has been unable to comprehend the urgency of the issue (KCSS 4 2006). According to her, this has resulted in negligent public behaviour and lack of individual effort. On a macro level therefore, the institutional inability to maintain a clear focus on the preservation of Kerala's environmental quality combined with the absence of stringent policies and negligible environmental awareness in the society has resulted in many waste dumps across the big cities (KCSS 4 2006).

Fishing communities, in particular, suffer greatly from poor solid waste management due to their proximity to water and generally unhygienic living conditions (KSCTE 2007). A large majority of population in these groups is uneducated and lies below the poverty line (Kurien 2000). The environment of the areas inhabited by these fishing communities is constantly

neglected, thereby resulting in serious environmental degradation and social health problems. A journalist asserted that an unspoken understanding between the state authorities and policymakers existed that considered these communities one of the most socio-economically disadvantaged groups (KCSS 6 2006). Lack of education (and thus a less assertive call for their rights) combined with negligence on the part of the state planning authorities has resulted in an environmental condition that, according to the media representative, is 'horrid and essentially stalemate' (KCSS 6 2006). When a woman from the community was asked about the environmental quality of the surrounding area, she argued:

> We struggle to arrange school uniform for [my] five year old boy who wishes to go to school. I accept we do not care about the environment but as long as we continue to live in these shabby conditions and struggle for basic [survival], I wonder if environmental management will ever take a priority. We do not particularly like to live in unhealthy conditions, but blame us if you like. We are helpless because we are poor (FG 1 2006).

To respond to the problem of solid waste management, local researchers have come up with various suggestions to help the government develop an effective waste management system for the state. These include, for example, waste segregation at household levels, public awareness campaigns organised by local authorities at the grassroots level, financial incentives to disadvantaged groups and environmental education in schools (KSCTE 2007); (KGR 4 2006; KCSS 8 2006). However, at this stage these are only recommendations. As one researcher argued, 'No action can be effective in managing waste in the state unless the government earnestly intends to take up the issue and deal with it wholeheartedly' (KCSS 1 2006).

In the past, continuous neglect for environmental management by the state's policymakers has invited critique from local and national researchers and environmentalists (Korakandy 2000). According to a health worker, 'such critique however, is not enough' (KCSS 4 2006). She suggested that focused planning at the institutional level was the *only* instrument that could help Kerala operationalise long-term environmental sustainability. She believed that developing the requisite technology and encouraging the public to follow 'less-consumerist, more environment-friendly' practices was well within the government's capacity, provided environmental conservation and preservation could gain priority in the state's planning agendas (KCSS 4 2006).

4) *Natural resources management and biodiversity*

The environmental challenges discussed above have directly affected Kerala's natural resources including its vast biodiversity. According to the state's statistics, total forest cover in Kerala has reduced by about 30% between 1905 and 1983 (KSCTE 2007). It substantiates the extent of loss of natural resources and destruction of flora and fauna across the state (Padmakumar 2007). In the context of natural resource management, Ouseph (2006, p.18) argues '[it] is one aspect that is either thrown to the winds or relegated to the background when handling developmental issues'. According to him, Kerala is green but its greenery has been achieved through monoculture farming, mainly in the form of rubber plantations (Ouseph 2006).

The state and central authorities have long been interested in cultivating rubber in Kerala (Ouseph 2006). Rubber plantations were initially considered economically more lucrative than timber. As a result, short-term economic benefits influenced the state and central policymaking bodies in favour of large replacements of timber with extensive rubber plantations, thereby resulting in a steep decline of wood cover in the state (Kurian 2007). With decreasing international demand for rubber, Kerala has been hit in more than one way. While the rubber exports are reducing slowly, the demand for timber for firewood and other uses is being met by spending an exorbitant amount of money on imports. It is suggested that 60% of urban and 25% of rural demands for timber are currently being met by imports (Ouseph 2006). Either way, Kerala's economy has suffered due to incorrect planning decisions (Ouseph 2006). A government representative confirmed thus, 'By far, the biggest blow to Kerala's environmental sustainability has been the decision to convert timber growing areas into rubber plantations' (KGR 3 2006).

To compensate for the huge loss of forest cover and to improve Kerala's environmental quality in general, the government has lately undertaken several initiatives. Reports from government publications suggest that campaigns for tree planting and cleanliness are being organised in various parts of the state (Government of Kerala 2007b; Government of Kerala 2007e; Government of Kerala 2007j). However, a member of a local civil society organisation, who has participated in many such campaigns in the past, complained, 'These government-sponsored programs are only one-off. They have more to do with gaining short-lived public and media attention than true commitment to the causes … there is hardly ever any follow-up' (KCSS 4 2006). She argued that economic growth has been the prime objective of the last few

governments in Kerala and this has indirectly meant that the environment was 'a relatively low-priority area' (KCSS 4 2006). According to her, it would be difficult for Kerala to achieve environmental sustainability without changing its existing path to economic development. The latter would require charging the economy and developing stringent environmental policy instruments.

The government's disregard for the environment in favour of economic advancements is also supported by the literature (Korakandy 2000; Gopikrishna and Kumar 2006). Lack of commitment from the government has directly resulted in non-committal public behaviour towards the environment (Ouseph 2006). The state governments have often been blamed for their 'lackadaisical attitude' and lack of focus on developing policies and reforms that are able to effectively address Kerala's primary environmental challenges (Korakandy 2000). The Silent Valley Agitation and the government's recent plan to revive the project further substantiate the policymakers' laidback attitudes towards the environment at various institutional levels.[11]

In sum, this section has discussed the presence of rich natural resources and abundant biodiversity in Kerala. However, the discussion has highlighted several environmental challenges that threaten the state's future ecological quality. Excessive tourism has adversely affected Kerala's beaches and backwaters and in the process, has led to rapid loss of marine life (KSCTE 2007). Increasing materialism – much in contrast to Kerala's traditional lifestyle – has further added to greater waste production and environmental pollution of air and water. The discussion above also suggests that due to the policymakers' strong focus on economic development, deterioration in Kerala's natural biodiversity and its ecological quality has essentially been ignored. Institutional incompetence in developing strict environmental laws for business enterprises and technologically advanced waste management mechanisms along with the failure to encourage environmental consciousness among the local population has led to grave local and national concern regarding Kerala's chances of achieving long-term environmental sustainability.

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[11] In the late 1970s, KSSP held what has been famously known as the 'Silent Valley agitation'. It protested against the government's decision to develop a hydro-power project across the valley. The environmentalists together with the KSSP succeeded in their protest and the project was dropped. However, there are reports that the pro-project government has been trying to bring the project back into action. It is expected that the project's impact would spoil Silent Valley which is 'one of the few remaining tracts of undisturbed tropical evergreen forests in India' (Krishnakumar 2004).

6.5   PUBLIC POLICY ACHIEVEMENTS AND INSTITUTIONAL SUSTAINABILITY

The above discussion suggests that institutional practices and policies have played an important role in guiding Kerala's development process. The state has encouraged a healthy relationship between a mobilised civil society and a pro-public governance mechanism, thereby resulting in effective reforms that have catered to the larger society without bias for elitist, powerful and dominant social groups. Kerala's vibrant civil society – with support from the state government – has been traditionally responsible for embarking upon a range of pro-poor- and pro-public projects. The Kerala Sastra Sahitya Parishad (KSSP) or the Kerala People's Science Movement is a strong civil society organisation that has, in its own way, fostered social empowerment by bringing people together across all castes and classes (Tornquist 2000a). KSSP has been an important driving force in organising several socio-political campaigns like the Total Literacy Campaign (TLC) in 1990 and the People's Plan Campaign (PPC) in 1996 (KCSS 2 2006).

There have been several other state-wide programs covering a range of social and economic issues e.g. development of smokeless *chulhas* (cooking stoves), group farming, participatory resource mapping, animal husbandry, sanitation and health, low cost technology for housing, primary education, and poverty alleviation (Isaac and Franke 2000; Nyoni 2005). All these programs have shared the common objective of building people's capacities to make them self-sufficient, thereby increasing empowerment at the grassroots level. Three such programs – the TLC, the PPC and Kudumbasree – have been Kerala's most discussed institutional planning initiatives. The following discussion presents an account of how each has evolved over time and highlights its main achievements and challenges. The latter will help in evaluating the efficacy of Kerala's contemporary planning approaches in achieving institutional sustainability.

6.5.1   The Total Literacy Campaign (TLC)

Kerala has achieved a high rate of primary education across both males and females. However, achieving the current state of high primary literacy has not been a one-step process. The state in cooperation with local planning authorities, civil society organisations and the general public has endeavoured to establish a long-term vision, according to which, every six

year old child – girl or boy – *must* attend school. It was this vision that, in the late 1980s, led to the birth of the Total Literacy Campaign, the first of its kind in India (Tornquist 2000a).

The KSSP was the prime driving force behind the TLC (Tornquist 2000a). For more than three decades, KSSP has been Kerala's strongest and also the most active civil society organisation. It was awarded the 1996 alternative Nobel Prize for spearheading activism in spreading education and environmental awareness in the state (Tornquist 2000b). The TLC was brought into implementation following a successful literacy program in the southern district of Ernakulam (Isaac and Franke 2000). In a span of one year (December 1988 to February 1990), the district was declared the first totally literate district in the country (Government of Kerala 2007g). Besides KSSP, the program in Ernakulam was supported by the district collector and the locals. Activities like literary plays, road shows, literacy walls and banners attracted people from all over the district. The campaign was successful on two grounds. It succeeded in imparting to the public reading and writing skills in the local language, *Malayalam*, while also creating awareness of the importance of health and hygiene across all sections of the society (Isaac and Franke 2000).

Following the success in Ernakulam, the state authorities decided to emulate the Ernakulam model and create similar levels of literacy throughout Kerala. Although the central government declared Kerala a totally literate state in India on 8th April 1991 (Government of Kerala 2007g), it is argued that the declaration may not entirely be true for various reasons. Despite the initial objective of spreading literacy across all social groups in the state, a large majority of marginalised sections – female domestic workers and scheduled tribe communities – remained beyond the reach of the campaign activists (Tharakan 2000). Besides, change in power at the state level disrupted the continuity of the TLC, thereby leading to reduced public interest and loss of popular momentum (Isaac and Franke 2000; Tharakan 2000). The program also failed in retaining the interest of the campaign's primary local drivers – grassroots level authorities – due to lack of support from local political parties and organisers (Tornquist 2000a).

In light of these observations, two main factors explain TLC's poor performance in achieving its objectives. Firstly, weak institutional management coupled with short-term political agendas impeded the campaign's long-term success. Secondly, as a journalist informed, the TLC raised false expectations among the local community (KCSS 6 2006). The campaign encouraged people to believe that literacy would provide an immediate solution to their socio-economic

deprivation. However, when no immediate positive impacts were felt, the illiterate masses began to withdraw (KCSS 6 2006). As a result, contrary to popular claims made by Kerala's policymakers regarding universal literacy, the TLC failed to meet its initial objective, thereby creating doubts over the effectiveness of planning approaches adopted at the institutional level.

6.5.2   Kudumbasree

Another institutional initiative Kudumbasree – brain child of the state government – has gained extensive domestic and international attention for its efforts in empowering Kerala's women, socially and economically. During several field discussions, Kudumbasree was repeatedly suggested as one of Kerala's most successful planning strategy to enhance gender empowerment. According to the interviewees, the program – despite internal administrative weaknesses – has succeeded in single-handedly tackling the issue of poverty and social wellbeing across various districts in the state (KGR 2 2006; KCSS 4 2006; KCSS 7 2006).

The idea of Kudumbasree was established to remove absolute poverty in Kerala (largely prevalent in fishing and tribal communities and districts in northern Kerala) by 2007-08 (Isaac and Franke 2000; Government of India 2001a). The project was founded in 1998 in the district of Malappuram (Government of India 2001a). According to a journalist, the main reason for implementing the first Kudumbasree project in Malappuram was because the latter's performance in achieving socio-economic development was far below the state average (KCSS 6 2006). As mentioned previously, the district has a high percentage of Muslim population and one of the highest poverty rates in the entire state (Isaac and Franke 2000; Government of India 2001a). Therefore, one of Kerala's most socially disadvantaged districts was chosen to gauge the efficacy of the Kudumbasree experiment in achieving socio-economic empowerment.

Since the project focuses on absolute poverty alleviation, a stringent set of conditions has been established to identify groups and families that fall in the category of the 'absolute poor'. A particular family is able to seek help under Kudumbasree if it fulfils at least four of the following nine conditions (Isaac and Franke 2000; Government of India 2001a):

1. Lack of access to safe drinking water;

2. Presence of one or more illiterate adults in the family;

3. One or no one employed;

4. Two or fewer meals a day;

5. Children under five years;

6. Alcoholics or drug addicts in the family;

7. Either a scheduled caste or a scheduled tribe family;

8. *Kutcha* (temporary) house; and

9. Lack of a sanitary latrine.

It was anticipated that these rules would help in the identification of the relevant groups and would thereby lead to a fair and just system of providing help to people who were truly 'needy' of institutional support. According to the literature too, these rules are extensive enough to identify Kerala's absolute poor (John and Chathukulam 2002). However, a worker at a local office suggested that 'manipulations are inevitable … and there are demands coming in from everywhere and we can do nothing but accommodate such [politically supported] requests' (KGR 5 2006). At the same time though, the respondent believed that there could not have been a better set of rules to distinguish the extremely poor families.

One of Kudumbasree's instantaneous achievements has been in the form of increased transfer of decision making power to female household members (KGR 5 2006). Each Kudumbasree family is represented by a woman. The majority of coordinators throughout the project are also women. This has resulted in female empowerment beyond expectations (KCSS 6 2006). Kudumbasree has three hierarchical levels, the Neighbourhood Groups (NG), each made of 20-40 households located in the same neighbourhood, the Area Development Society at the ward level (ADS) and the Community Development Society at the town level (CDS) (John and Chathukulam 2002).

Kudumbasree has led to the development of various women- and children-oriented programs like easy immunisation schemes and small-scale micro-credit enterprises. According to a 27 year old housewife who was being helped by her local Kudumbasree, 'This community-based scheme has been successful because the idea behind the project is simple and true to the demands of the locals' (KCSS 5 2006). The micro-credit scheme is simple and easy to manage for women belonging to economically weaker sections of the society. Each family contributes a

small amount of money to the community fund. This money is then given as loans to the needy at very low interest rates. Women are guided to establish their own small businesses. Such micro-businesses, in turn, empower them by making them self-reliant and self-sufficient on a long-term basis (Isaac and Franke 2000; Government of India 2001a; John and Chathukulam 2002). The government representative at Kudumbasree also informed that a large majority of women participating in Kudumbasree activities were those who became widows at an early age or those whose children had left them alone to work in the Gulf or other places within India (KGR 6 2006). To this extent, Kudumbasree has also facilitated community interaction and feelings of social belongingness among women who were otherwise vulnerable to social isolation and deprivation.

There is no doubt that Kudumbasree's local representatives are fully aware of the increasing degree of bureaucracy and corruption within its functioning. Field discussions however, suggested that the program's positive effects on the social and economic status of women have led the local public to largely ignore administrative bottlenecks existing higher up in the institutional hierarchy (KCSS 5 2006; KGR 6 2006). Kerala's Vision 2010 has further included strengthening the Kudumbasree program as one of its key focus areas (Government of Kerala 2006). To a broad extent therefore, innovative institutional planning measures like Kudumbasree and its positive outcomes have reinforced the community's faith in Kerala's public policy arrangements. As a worker at a Kudumbasree office suggested:

> The job does not pay me very much but my voice is heard in neighbourhood decision making [and planning] … [which] is a big advantage in itself. I am not working for money. I am [here] to help fellow women who are deprived of their rights at home mainly because they are financially dependent [on male members] (KGR 6 2006).

Large public support has, as a consequence, increased the popularity and the success of Kudumbasree in empowering the state's socio-economically disadvantaged groups, particularly women.

6.5.3   The People's Plan Campaign (PPC)

Besides the TLC and Kudumbasree programs undertaken by Kerala's policymakers to institutionalise the idea of holistic sustainability, the People's Plan Campaign is another public policy initiative that has guided Kerala's planning for sustainability to a large extent. It has

undoubtedly been Kerala's most popular – and therefore, widely examined – effort to enhance local sustainability planning by introducing extensive decentralisation through mass mobilisation. The idea of the PPC was laid because Kerala's institutional authorities realised that it was imperative

> to provide maximum opportunity for the direct participation of the people in daily governance … [This, in turn,] require[d] the creativity and the social logic of a movement … A decentralised development planning strategy was [therefore, essential] … to extend democracy beyond making demands to making decisions about … how to improve their [people's] lives and their communities (Isaac and Franke 2000, pp.20-35).

The discussion below presents an account of the PPC's achievements and failures. The latter will help establish the campaign's institutional efficacy in meeting its objectives of democratic decentralisation and increased public involvement in Kerala's sustainability planning. To develop a logical understanding of the PPC's functioning in general and of the division of roles and responsibilities during the decentralisation process, it is important to understand the hierarchy of Kerala's urban and rural structure for institutional governance. Figure 6.4 below suggests the main governance units in the state.

The PPC was developed around the administrative structure shown in the following figure. At all times, a conscious effort was made at the institutional level to empower the lowest units of government to partake in the decentralisation process. The main objective was to build the local capacity and to turn the power structure such that decisions with regard to planning, implementation and monitoring could be appropriately undertaken at the grassroots level (Isaac and Franke 2000). The campaign therefore, attempted to give maximum power to the local village and city units – *gram sabha*s and wards respectively – thereby enabling them to become self-sufficient with regard to planning according to local needs and priorities (Raghuram 2000; Tornquist 2000b; Heller 2005).

1)   *PPC's genesis, process and achievements*

Field discussions suggested that Kerala's age old culture of civil society movements and public mobilisation has been one of the primary reasons behind the genesis of the PPC (Tornquist 2000a).[12] The development of pro-public projects like the TLC strengthened the government's belief in the power of public mobilisation. It was expected that the campaign would bring

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[12] The role of Kerala's civil society and resulting socio-political activism has already been discussed in previous sections of this chapter.

people together – through class and caste boundaries – to lead Kerala to the true Gandhian ideology of democratic development (Isaac and Franke 2000; Chathukulam and John 2002). A government representative confirmed the PPC's aim: 'Various governments in Kerala have always been proud of its people's social and civic attitudes. There was no doubt that a campaign of PPC's stature would bring every Keralite together' (KGR 3 2006).

Figure 6.4: Administrative structure of Kerala's local governance
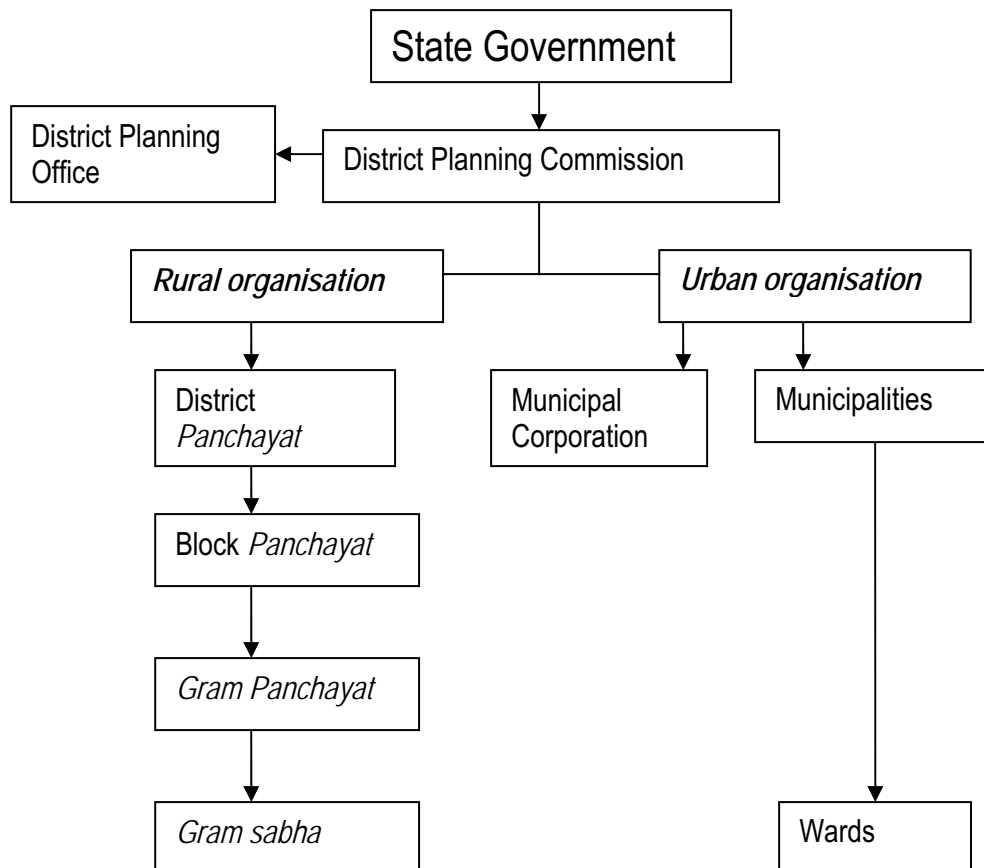
Source: (Isaac and Franke 2000; George and Lelithabhai 2002)

Furthermore, another dimension that led to the birth of the campaign was Kerala's lagging performance in the decentralisation wave that was spreading throughout India with support from the centre during the late 1980s-early 1990s. The state's aggressive civil society, which was already looking for strong democracy, thus joined hands with the opposition Left and brought the latter back in power (Tornquist 2000a). The change in power came with a promise of rigorous decentralisation. Having said this, the literature suspects that the PPC was driven by a combined force of political rivalry and the society's conscience-driven demands (Chathukulam and John 2002). Two field respondents, including a senior government

authority, confirmed the doubts mentioned in the literature (KGR 1 2006). According to a journalist, 'While the PPC has enabled Kerala's people to plan and decide for themselves to a reasonable extent, the earliest reasons for the development of such a program was more political than a truly pro-public institutional attitude' (KCSS 6 2006).

The campaign was officially launched on August 17, 1996 (George and Lelithabhai 2002). It was meticulously planned out into a number of phases (Isaac and Franke 2000; John and Chathukulam 2002; Nyoni 2005). Phase 1 essentially mobilised people at the local level and encouraged them to attend and participate in their *gram sabha* meetings to suggest local needs and challenges. The choice for *gram sabha* as the first step towards decentralisation was governed by the feeling that these units would provide easy access points for people in their local areas. It was believed that this would, in turn, result in accountability and transparency – crucial issues for an institutional planning initiative undertaken at such a large scale. By the end of two months, a total of 2 million people had participated in *gram sabha* and ward meetings across the state (Isaac and Franke 2000).

Phase 2 focussed on developing the needs discussed in phase 1 into more concrete studies and preparing development reports in a scientific fashion (Isaac and Franke 2000). These reports were then presented and discussed at the development seminars, which suggested local recommendations for development. The subsequent phase resulted in transforming these proposals into full projects. The projects were classified based on different criteria: *purpose*: production, infrastructure and social welfare; or *time frame*: short-term and long-term; or *type of beneficiary*: individuals, households or larger groups (Isaac and Franke 2000).

Final projects were chosen by a committee of elected representatives in *gram panchayats* and municipalities in phase 4 (Isaac and Franke 2000). In order to maintain a fair and transparent system, the committee was required to provide a written report to substantiate their preferred choices. This document was made publicly accessible (Nyoni 2005). The final phase was responsible for bringing various panchayat plans together, thereby requiring greater levels of coordination and integration with higher tiers. Finally, block and district panchayat plans were developed, which were then evaluated for technical and financial feasibility by an expert committee of retired senior government officials (Isaac and Franke 2000; Nyoni 2005).

2)   *PPC's challenges and failures*

Despite wide support from the civil society and a pro-public government in power, the campaign's 'real' efficacy in achieving its goals of building public capacities and encouraging democratic decentralisation has been limited (Chathukulam and John 2002). According to a journalist, 'like most other large-scale campaigns elsewhere [nationally], the PPC had its own issues' (KCSS 6 2006). He informed that the campaign's first phase was the easiest to get through as 'the concept was new, people were excited and their faith in the government encouraged them to participate in *gram sabha* meetings … [Therefore,] the response was enormous' (KCSS 6 2006). For all other phases, he argued that there were many debates and struggles.

A government planning representative further confirmed a growing concern for transparency in block and district panchayat level working during the campaign's second phase (KGR 2 2006). The respondent believed that a large part of this concern was due to hurried processes which often skipped the routine administrative steps to meet stringent timelines. The literature also suggests deteriorating levels of transparency across higher levels of governance during the final phases of the PPC (Chathukulam and John 2002). Furthermore, according to a local woman who participated in the PPC's first phase and closely followed the campaign's subsequent performance, 'bureaucracy existed at all levels' (KCSS 7 2006). She argued that it was difficult to restrict bureaucratic interference in the PPC's functioning due to an unsatisfactory focus on the use of preventative measures by the state planning authorities (KCSS 7 2006). Chathukulam and John (2002) further confirm that a high degree of bureaucratic authority existed in varying forms during the campaign and that it was impossible to control the rising bureaucracy due to weak institutional focus on these issues.

Besides, lack of effective mechanisms to develop and maintain coordination within and between various administrative units was also suggested by a respondent as a possible reason for reduced efficacy during the later phases of the PPC (KCSS 4 2006). However, one factor that compromised the campaign's efficacy by a significant measure was the lack of support from administrative staff and technical experts (KCSS 1 2006; KCSS 4 2006; KGR 5 2006). Tornquist (2000b) and to some extent, Isaac and Franke (2000) also share a similar view on the difficulties faced during several stages in the PPC due to lack of competent administrative and technical staff members.

Finally, out of the four long-term aims of the campaign mentioned below, reasonable success has only been achieved in meeting the first aim. For all other aims, the 'real' degree of success has been widely debated (KCSS 1 2006; KCSS 6 2006).

1. Devolve funds and create a set of Local Self-Government Institutions (LSGIs)[13];
2. Encourage mass engagement and promote participatory planning;
3. Enhance democracy by developing a social and civic attitude that would result in a new democratic environment within the state; and
4. Prepare a blueprint for institutionalising decentralisation permanently in the state governance system (Isaac and Franke 2000; Tornquist 2000a).

While the literature confirms that the devolution of funds to local bodies has continued (Mohanakumar 2002), there are doubts pertaining to significant long-term improvements in the whole system as a result of the PPC (KCSS 8 2006). Box 6.5 below presents two examples to substantiate PPC's inability in bringing about deep-rooted changes in Kerala's institutional sustainability through democratic decentralisation.

Box 6.5: Case story 5

1. A government representative, who has been actively involved with the administration of the LSGIs in the past, told the researcher, '*Gram sabha*s are definitely more active than other units of local administration. However, they are still far from meeting our expectations. There has been a continuous degradation in the quality of people's enthusiasm and participation. In turn, this has often resulted in poorly planned strategies and actions' (KGR 2 2006).

2. A discussion with a villager confirmed the bureaucrat's views. She said that although there was a rule which required that a meeting be held once every three months, it was common to have no meetings at all for a long time. She also added that whenever there had been a meeting, the organisers already had their pre-set agendas and there were often heated debates with no consensus. She felt therefore, that the whole process was an endless activity with no positive outcomes. As a result, she had not participated in any *gram sabha* meetings in the last 3 years (KCSS 7 2006).

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[13] These institutions are responsible for building local capacities to formulate independent projects. It was decided that 35-40% of state's budget would be directly allocated to these institutions to help them implement local projects.

As observed from the discussion above, the campaign has provided only a superficial platform for institutionalising local democracy. According to a research scholar, 'Those politicians who argued for the development of the PPC were mere advertisers … It [the campaign] has become *just another* (emphasised in original) initiative with shallow significance for Kerala's socio-political development' (KCSS 1 2006). As a result, Kerala's civil society has gradually lost interest in following the state's development trajectory (KCSS 7 2006).

In conclusion, this section has presented three of Kerala's most discussed public policy initiatives: the Total Literacy Campaign, Kudumbasree and the People's Plan Campaign. While there have been mixed responses with regard to the long-term success of the TLC and the PPC, the Kudumbasree program has been highly successful in empowering Kerala's socio-economically disadvantaged groups, especially women. All three examples underline the potential of institutional authorities in planning and developing such large-scale projects. The TLC – although slightly overrated in terms of its claim of making education universal in Kerala – has nevertheless, increased people's awareness of the importance of education. The latter has, in turn, contributed to increased literacy levels at the school level, thereby encouraging greater social empowerment.

Regarding the other popular initiative of decentralisation, the discussion has confirmed that the PPC has made a significant impact on Kerala's decentralisation process. The campaign has delivered financial and intellectual capacity to the public to develop and plan locally. At the same time however, poor coordination between sectoral activities and across various tiers of governance, lack of transparency, and lack of administrative and technical support has prevented the campaign from contributing to long-term democratic development of the state.

CONCLUSION

This chapter has produced a detailed account of Kerala's planning approaches for holistic sustainability. In doing so, it has considered how Kerala has planned for its development across the four fundamental dimensions of sustainability – social, economic, environmental and institutional. The discussion has argued that Kerala's efforts in developing a high social quality of life – represented in the literature by high primary literacy and health statistics – have only been partially successful due to the presence of several social challenges. Some of these,

according to the study, are: dowry, conservative beliefs that hinder female empowerment, high alcohol consumption, growing social inequality and the outbreak of life-threatening diseases. On the economic front too, Kerala's planning has constantly failed to control high rates of unemployment, that are, in turn, triggered by strong unionisation, high school dropout rates, lack of incentives from the government, and false social egos. Further, the chapter has argued that Gulf migration, while being greatly beneficial for Kerala's socio-economic development over the last few decades, has negatively impacted the state's social harmony, family relationships, and stability. Besides weak planning approaches on social and economic fronts, the chapter has also argued that Kerala's environmental quality has been constantly deteriorating. Low institutional priority to environmental management and natural resource conservation combined with reckless tourism and lack of environmental awareness among the masses has rendered Kerala's minimal environmental planning largely ineffective.

The chapter has argued that planning inefficacies relating to social, economic and environmental issues have often been a result of poor decision making at the institutional level. The inability of two of Kerala's most widely discussed public policy initiatives, the TLC and the PPC, to achieve their long-term objectives due to regular bureaucratic interference, corruption, lack of transparency, and the institutional tendency to make false promises of policy reform to the local public further substantiates weak institutional planning across various levels of governance. In other words, institutional incompetence has undermined Kerala's performance in making a smooth transition to holistic sustainability. Thus, while there is no doubt regarding the significance of some of Kerala's achievements in operationalising its long-term sustainability (e.g. the role of its civil society in planning for social development), challenges mentioned above lead to uncertainty with regard to Kerala's popular representation in the literature as a paradigmatic case of positive development. Chapter Eight will further discuss the data presented in this chapter to evaluate the efficacy of Kerala's planning pathways in operationalising sustainability.

CHAPTER SEVEN

CASE STUDY 2: SWEDEN

INTRODUCTION

Since this study aims to operationalise sustainability by evaluating current planning approaches, choosing a case study region has been difficult. The research questions demand a focus on a region that is widely recognised for the quality of its sustainability planning. Sweden has a strong international reputation of being a frontrunner in sustainability planning (Hagerhall and Gooch 2002; Thakur, Keen, Horvath and Cerra 2003; Morgan 2004). The country highlights the possibility of achieving a good quality of life while maintaining a steady economy and a high environmental quality (Chadwick, Garrod and Larsson 1996; Fudge and Rowe 2001; Rowe and Fudge 2003; Thakur, Keen *et al.* 2003; Morgan 2004; Gustavsson, Elander and Lundmark 2006). According to Morgan (2004, p.43), Sweden maintains 'a successful 'mixed' economy with a high standard of living based on high-tech industries, a skilled workforce and an extensive welfare system'.

This chapter examines Sweden's approach to sustainability planning across four substantive criteria: institutional, social, economic and environmental. In doing so, it evaluates, on the one hand, the efficacy of the country's contemporary planning pathways in achieving long-term sustainability. On the other hand, it establishes the 'real' extent to which popular literature claims which consider Sweden a model example – and argue in favour of its successful operationalisation of holistic sustainability – hold true. Using data from field interviews, observations and documents, the chapter presents a detailed account of the efficacy of Sweden's sustainability planning approaches.

The chapter is organised in six sections. The first provides a general background to Sweden including basic physical and political information that is essential for understanding the later sections. The second section discusses Sweden's governance model and its institutional planning initiatives and weaknesses in achieving sustainability. Subsequent sections (7.3 to 7.5) evaluate Sweden's planning approaches for social, economic and environmental sustainability respectively. For each of these dimensions, Sweden's achievements along with

both immediate and long-term challenges are discussed. Section 7.6 examines the case of Hammarby Sjöstad, an urban planning initiative in Stockholm, to further evaluate Sweden's efforts in the direction of holistic sustainability planning. Finally, the chapter concludes by drawing together important findings regarding Sweden's sustainability planning efficacy.

7.1   BACKGROUND

Sweden is located in the north of Europe (see Map 4). It has a total area of 449,964 square kilometre and a population of 9.15 million with an annual growth rate of 0.16% (Statistics Sweden 2000; Statistics Sweden 2006b). Almost 16% of Sweden's population (approximately 1.4 million people) has foreign background (Statistics Sweden 2006b). Stockholm, Sweden's capital, is the largest city with an approximate number of 750,000 inhabitants. However, the Larger Urban Zone (LUZ) of which Stockholm is a part has close to 1.8 million people (Statistics Sweden 2004a). Gothenburg and Malmö are the country's other big cities with populations of 0.48 and 0.27 million respectively (Statistics Sweden 2006b). Despite strong opposition from various political and social groups, Sweden became a member of the European Union in 1995 (Elander 2000). However, Sweden has not yet accepted the Euro and maintains Swedish Krona (Sek) as the national currency.[1]

Sweden is a constitutional monarchy and maintains a head of the State and a head of the government. Since 1973, Sweden's head of the State is King Carl XVI Gustaf (Regeringskansliet 2006a). There are no political powers with Carl Gustaf except that he represents Sweden internationally. The head of the government, Prime Minister Fredrik Reinfeldt, has recently come to power in September 2006. The new government has replaced the Social Democratic Party (SDP), which was in power for the preceding twelve years (Swedish Institute 2006a). Sweden's evolution into a social welfare state is largely attributed to the SDP which has been in power for almost 65 of the 74 years since 1932 (Berman 1998; Sellers and Lidstrom 2007). The latter's vision of 'political, economic, and social equality [that] went hand in hand' has been central to Sweden's socially democratic development over the last six decades (Berman 1998, p.57).

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[1] 1 AUD equals 5.6 Sek

Map 4: Sweden
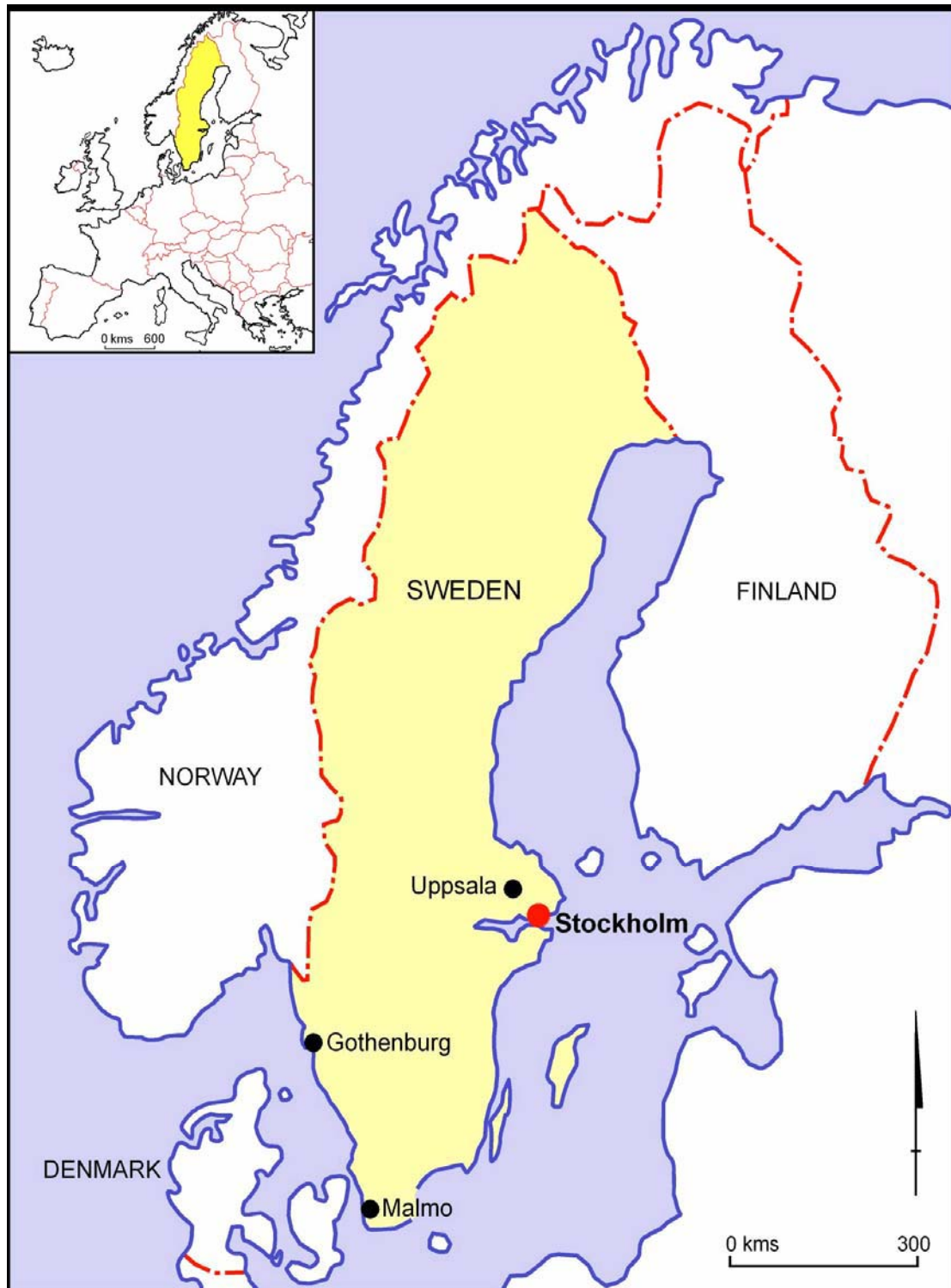
Sweden offers a particularly interesting case for study because its current 'highly developed' status has been achieved in much less than a century. The literature refers to Sweden in the late 19th and early 20th century as the 'sick man of northern Europe' and 'strike capital of the

Western world' (Berman 1998, pp.41-43). According to Berman (1998), 72% of Sweden's total population was associated with agriculture in 1870. Since Sweden remained a primarily agrarian society until the mid-1900s, it had a late industrialisation process compared to other regions in Europe (Berman 1998; Rowe and Fudge 2003). Sweden has therefore, emerged from a high-agrarian, late-industrial economy to a society that has successfully established a competent social welfare and economic system.

Seven main political parties currently exist in Sweden. The SDP is, without doubt, the most powerful due to strong traditional support from intellectuals and public sector employees (Swedish Institute 2007).[2] Other significant groups are the Moderates, the Centre Party, the Green Party, the Left Party, the Liberal People's Party and the Christian Democrats. Of these groups, the Green Party – established in 1981, led primarily by environmentalists and similar radical associations – has been the last group to join the parliament in 1988 (The Green Party of Sweden 2002). According to Elander (2000), the Greens have played a significant role in lobbying for the development of stringent environmental policies for social and economic activities in Sweden. Aggressive pro-environment lobbying by the Green Party has thus provided a successful platform to bring together national economic and environmental policymakers to develop cooperative and pragmatic approaches to achieve long-term sustainability (Elander 2000); (SCSS 2 2007; SGR 3 2007).

7.2   GOVERNANCE AND INSTITUTIONAL SUSTAINABILITY

7.2.1   Sweden's governance structure

Governance in Sweden follows three distinct tiers – national (State), regional (County) and local (Municipality) (Regeringskansliet 2006b) (see table 7.1 below). At the national level is the Swedish parliament, also known as *Riksdag*. The Parliament supervises the national government, which comprises the Prime Minister, a group of 20 Ministers, 300 central government agencies and some state-owned companies (Regeringskansliet 2006a).

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[2] The SDP has been the largest political party in Sweden since 1914 (Berman 1998).

Sweden is divided into 21 counties (European Commission 2000). While the county administrative board (also known as *Lansstyrelsen (Lst)*) is the regional representative, the county council (the *Landsting*) consists of elected representative inhabitants from within the county. Main duties of the *Lst* are regional economic and physical planning. Responsibilities of a council, on the other hand, include health and medical services, culture and public transport (European Commission 2000).

For local governance, municipalities are the primary responsible bodies. There are approximately 290 municipalities within Sweden (Eckerberg and Forsberg 1998). Municipalities have the power to take independent decisions in planning for activities related to sewage, waste management, energy, primary and secondary school education, and environmental certifications and development. Each municipality comprises a municipal council that maintains different committees for specific sectoral issues. According to Rowe and Fudge (2003, p.127), 'The decision making structure [in Sweden] is more highly devolved than elsewhere in Europe'. A senior representative of a political party confirmed this view, 'the real institutional and management powers in Sweden are with the municipalities. They are the biggest autonomous bodies in the country' (SGR 3 2007).

Table 7.1: Sweden's governance structure

National (State)	State monarchy	King Carl XVI Gustaf (no political powers)
	Elected government	Parliament *(Riksdag)* Government Prime Minister 20 Ministers Central Government Agencies State-owned companies
Regional (21 Counties)	State representation	County administrative boards, *Lansstyrelsen (Lst)*
	County representation by election	County councils, *Landsting*
Local (290 Municipalities)		Municipal Council & local committees

Source: (European Commission 2000; Regeringskansliet 2006b)

Furthermore, several other scholarships support the decisive role played by extensive decentralisation in delivering stable social welfare development policies across Sweden (Blom-Hansen 1999; Elander and Stromberg 2001; Elander 2003; Rowe and Fudge 2003; Wibeck,

Johansson, Larsson and Oberg 2006; Sellers and Lidstrom 2007). The governance system provides extensive support to municipalities, thereby empowering them to plan for their development based on future local economic, population and infrastructure demands. Municipalities are also given complete freedom in suggesting and maintaining their own administrative structures. According to Elander and Stromberg (2001, p.5):

> The development of the welfare state in Sweden more than in most other countries has been put in the hands of the municipalities … Most municipal decisions are not subject to central government approval, and furthermore, and perhaps, most important, local government has its own essentially unrestricted right of taxation.

At the same time however, Swedish governance maintains strong traditions of 'top-down interactions where policy directives, requirements and expectations stemming from the national level entail important demands on municipalities' (Storbjork 2007, p.459). In other words, while the decision making power is devolved to municipalities, the latter's authority to exercise the power remains limited. This is evident through centralised target-setting and conflicts with regard to the division of responsibilities between local and national bodies (Rowe and Fudge 2003). National policymakers blame local politicians for the latter's lackadaisical attitude towards developing sustainability initiatives at the municipality level, while the local decision makers accuse their central counterparts of failing to provide guidance and technical advice. Such theoretical discrepancies result in reduced efficacy of planning approaches in achieving sustainability across both national and local levels (Storbjork 2007).

Besides, Sweden's institutional sustainability is affected by the presence of weak regional bodies. While municipalities in Sweden are given increasing autonomy in decision making and planning for sustainability, the country's long-term effectiveness in governance is challenged by the absence of strong regional entities (Rowe and Fudge 2003; Morgan 2004). Due to weak regional bodies, coordination and integration between and within municipalities is often a barrier to effective planning (SCSS 3 2007). According to a politician, 'There is a need for a strong body at the regional level that can influence municipalities positively [and that may also] control their reckless self-centred patterns of growth and development' (SGR 3 2007). According to her, institutional structure in Sweden needed to be transformed such that the regional bodies received a greater share of responsibilities. Morgan (2004, p.53) further addresses the lack of authority and control evident at regional levels in Sweden, 'The relatively strong position of the municipalities contrasts with the lack of power at county level and

highlights the need at the regional level for policy co-ordination, transparency and accountability'.

The study suggests that northern regions in Sweden have suffered the most as a result of weak regional bodies. A planning expert argued that improved regional coordination in northern areas was essential to ensure an equitable spread of sustainability across Sweden (SCSS 1 2007). Since big cities in Sweden – Stockholm, Gothenburg, Malmö and Uppsala – are located in the south, increasing trends of inter-regional migration from north to south have been witnessed in the past (Westlund 2001). The latter has resulted in the loss of north's productive resources to better social and economic opportunities in the south (Westlund 2001). Given that the northern municipalities are already scarcely populated and are often incompetent in dealing with resource development and capacity building at an individual level, the presence of a strong regional body would encourage more intensive coordination, thereby enhancing development and resource sharing opportunities between different local bodies (Blom-Hansen 1999; Westlund 2001);(SCSS 1 2007).

Fudge and Rowe (2001) further suggest weak, and often unsatisfactory, coordination between and within municipalities and higher governments. Although Sweden maintains several theoretical ideas with regard to sustainability planning, the capacity to transform these ideas into practical solutions is 'easily accessible to neither national nor local politicians and government officers, let alone to the electorate' (Rowe and Fudge 2003, p.137). They thus call for efforts that are mutually reinforcing and well coordinated across national, regional and local institutional structures to deliver increased sustainability planning efficiency.

Despite the above shortcomings in its governance arrangements, Sweden maintains a very high degree of transparency and accountability across all politically powered positions at the national, regional and local level (SCSS 1 2007; SGR 5 2007). According to a government representative, institutional efforts have constantly been strengthened to ensure democracy and accountability in all governance-related dealings. She thus informed:

> Anyone can open my mail, check my letters in post. I can not object to this as institutional arrangements in Sweden have been pro-public for a long time … everything in this country is public unless something can be proved as truly confidential (SGR 5 2007).

The country's 'Freedom of the Press Act' that encourages high levels of trust between the government and the society further confirms institutional transparency.[3] However, an academic scholar believed that the practicality of such instruments was limited. He blamed the local and national media for failing to enhance public trust and belief in the institutional system by 'wasting away the opportunity' (SCSS 3 2007). According to him:

> the ability to check a minister's mails is used in the most unproductive manner. Her expenses on foreign travels and food bills are exposed to the public. The 'real' information that the public deserves to know … [like levels of corruption, performance in meeting targets etc.] is hardly ever brought out by the media (SSCS 3 2007).

7.2.2   Institutional initiatives for holistic sustainability

This section presents an account of the initiatives taken at the institutional level to further national efforts in the direction of holistic sustainability. To begin with, the role of a recently established national advisory body – Commission on Sustainable Development (CSD) – in expediting the process of national and local sustainability planning is discussed.

CSD was established in early 2007 to advise the national government on issues crucial for Sweden's long-term holistic sustainability (Ministry of the Environment 2007). The commission – headed by the Prime Minister and the Minister for the Environment as its deputy chair – comprises eleven other members from business, research, and independent civil society organisations. CSD's members are selected on the basis of experience and merit and are therefore, expected to be largely apolitical (Ministry of the Environment 2007). CSD's primary activities include, *inter alia,* promoting partnerships between various groups; defining areas of social, economic and environmental concern at domestic and international fronts; and recommending solutions to policymakers regarding Sweden's immediate and future challenges from a multi-faceted perspective.

The commission's work is founded on scientific principles and technical knowledge brought together through extensive member expertise. Despite the presence of the Prime Minister in the CSD, the commission holds limited political powers and jurisdiction in national decision

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[3] Sweden was the first country in the world to develop a law on freedom of the press in 1766 (Regeringskansliet 2005).

making. Its role is limited 'to analys[ing] problems considered relevant to sustainable development work … [by] looking at the significance of innovation, education, research and technological development' (Ministry of the Environment 2007, p.1). As a result, CSD remains a purely advisory body whose primary objective is to apply scientific bases to analyse existing barriers to sustainability and suggest cross-sectoral action strategies (Goll and Thio 2008).[4]

Having said this, the commission's role and involvement with national sustainability planning has substantially increased over the last year. This is evident from the fact that Sweden's national planning strategy for sustainability has considered recommendations made by the CSD (SGR 2 2007). The national strategy contains four underlying themes that call for priority address by central, regional and local governments across Sweden (Ministry of the Environment 2006; Kjellstrom, Hakansta and Hogstedt 2007):

1. Building sustainable communities;
2. Encouraging good health on equal terms;
3. Meeting the demographic challenge; and
4. Encouraging sustainable growth.

According to a member of the CSD, the decision to arrive at these four issues was driven by a long-term holistic sustainability vision for the country (SGR 2 2007). Besides focus on these four priority themes, several other directives to enhance sustainability across the three main dimensions – social, economic, and environmental – have also been firmly established as part of the national government's long-term strategy (Kjellstrom, Hakansta and Hogstedt 2007). Sweden has therefore, not only theoretically established sustainability in its working policies but has also developed – in the form of CSD – a multidisciplinary institutional instrument to plan for and operationalise holistic sustainability.

Furthermore, Sweden's efforts in promoting regional (EU-wide) and international sustainability have also been noteworthy (Goll and Thio 2008). Kjellstrom, Hakansta and Hogstedt (2007, p.63) argue thus, 'In 2003 … Sweden became the first country to have an integrated policy for global development … [which] has introduced a new, cross-sectoral way of dealing with development work'. According to a journalist, 'Sweden's aid to developing countries, especially

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[4] Since the CSD was only recently established (in early 2007), there is a dearth of literature available that can highlight its achievements and possible challenges. The discussion on CSD included in this thesis therefore, draws on the experiences of its members and also some academic researchers involved with its functioning both formally and informally.

to Africa, is one of the highest in the world' (SCSS 11 2007). The Swedish International Development Agency (Sida) alone is responsible for channelling SEK 15.7 billion, or 54% of Sweden's total Official Development Assistance (ODA) to approximately 120 countries in Asia, Latin America and Africa across two primary domains: education and health (Sida 2005) (see table 7.2 below).

Table 7.2: Sweden's bilateral aid assistance, 2000-05 (Sek Million)

NOTE:
This table is included on page 189 of the print copy of the thesis held in the University of Adelaide Library.

Source: (Statistics Sweden 2007c)

Besides, Sweden's efforts in managing the Baltic Sea confirm its regional commitments (Gustavsson, Elander and Lundmark 2006). After the Council of the Baltic Sea States was established in 1992, Sweden's contribution in enhancing intergovernmental multilateral cooperation between the Council's twelve member states has been significant. Sweden was responsible for taking the initiative to organise the Baltic Sea States Summit in 1996 which brought together the heads of the state of the member countries along with the President of the European Commission (Ministry for Foreign Affairs 2004). These meetings have resulted in enhanced cooperation among the member states to improve economic and environmental planning opportunities for the Baltic.

Despite several efforts to operationalise long-term holistic sustainability, national sustainability planning in Sweden has maintained an essentially environmental focus. According to Rowe and Fudge (2003, p. 129), 'it is clear that the emphasis remains heavily environmental. Socio-cultural, institutional and governance aspects of sustainable development have as yet received little attention'. Field discussions confirm the above argument. According to a scholar, 'Sustainability requires simultaneously addressing social, economic and environmental challenges … However, for Sweden, climate change has invited all of national government's attention and resources' (SCSS 2 2007).

Furthermore, local governance too faces the challenge of operationalising holistic sustainability. Municipalities tend to favour social development and economic growth over environmental conservation. Different staff members working with municipalities confirmed such tendencies. According to a senior official accountable for planning for local education, local politicians were not 'always really' interested in holistic development (SGR 5 2007). Another interviewee, responsible for detailed planning at the municipality level, suggested that 'in a municipality like ours [which is small and economically weaker than the rest], local management encourages sprawl. It wants businesses to come and expand' (SGR 7 2007). He confessed that although he maintained high disregard for the local politicians' planning approaches favouring reckless economic expansion, there was not much he could do personally unless the municipality's residents demanded increased focus on holistic sustainability (SGR 7 2007).

According to another official employed with a municipality's health committee, local politicians were often not willing to go out of their way to encourage holistic sustainability at the municipality level (SGR 8 2007). The interviewee believed that political agendas often guided local projects. She suggested that even when a particular project's potential contribution towards the region's current and future sustainability had been well established, it was difficult to convince her local politicians for grants and approvals if the project did not directly address immediate political priorities.

Furthermore, despite popular claims for democratic governance and efficient mechanisms to ensure transparency and accountability, recent cases of fraud within two of Sweden's biggest organisations, alcohol monopolist, *Systembolaget*, and national insurance company, *Skandia*, suggest the presence of bureaucracy and corruption-related malpractices in Sweden (Agence France Presse 2003; The Local 2006). A journalist from one of the country's most widely read newspapers confirmed that corruption existed at higher levels in the government hierarchy (SCSS 12 2007). According to him, a possible reason for negligible public attention towards corruption in Sweden was the fact that the latter was rarely associated with money and direct financial gains unlike in most other parts of the world. On the contrary, 'In this country, corruption takes the form of increased power and indirect autonomy over businesses and resources … Swedes are more or less naïve towards the existence of corruption in the society'

(SCSS 12 2007).[5] The respondent argued that since the society was traditionally based on high trust levels, the general public was unable to accept the presence of corruption in Sweden.

A CSD member also confirmed the presence of bureaucracy in Sweden's institutional arrangements (SGR 1 2007). According to her, a top-down working mechanism has prevented the full realisation of the commission's potential. 'The senior members holding power higher-up [within the commission] are not always technical experts; yet they decide upon the issues of national concern.' (SGR 1 2007) The respondent also argued (on condition of strict anonymity) that the commission – due to the presence of the Prime Minister and other ministers – has gradually become a largely bureaucratic platform. The latter, in turn, has impacted the CSD's progress and efficiency in planning for national sustainability. 'We work exactly how we are asked to. Often, there is not much liberty in choosing our own issues and deciding priorities' (SGR 1 2007).

In conclusion, Sweden has been able to establish an effective system of decentralisation, thereby making municipalities self-sufficient and autonomous units of governance. At the same time, extensive transfer of power to local bodies has resulted in weak regional institutions thus resulting in poor levels of coordination and integration between different municipalities. Furthermore, institutional planning initiatives undertaken at the national level have firmly established the objective of sustainability across various levels of governance. Having said this, Sweden's institutional planning pathways have been unable to perpetuate the concept of 'holistic' sustainability effectively. Besides, increasing levels of bureaucratic interference and corruption at national and local level have undermined institutional sustainability efficacy. Considering these observations, it may be argued that contemporary institutional planning approaches in Sweden – despite being essentially successful in empowering municipalities for effective local governance – need reorganisation to address the challenges highlighted above.

7.3   SOCIAL SUSTAINABILITY

Sweden's national and local sustainability strategies call for attention across social, economic and environmental dimensions of sustainability (Eckerberg 2001; Ministry of the Environment

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[5] The journalist informed that the CEO of *Systembolaget* was the wife of Sweden's ex-Prime Minister Goran Persson. This, according to media and several economists, was one of Persson's strategies to extend power and control over one of the most profitable companies in the country.

2006; Goll and Thio 2008). This section begins with a discussion of Sweden's social welfare system followed by an examination of two of Sweden's most significant social issues: gender empowerment and immigration.

7.3.1   Sweden's welfare system and social wellbeing

Sweden is famous for its generous welfare policies that are one of the most egalitarian in the OECD (Elander 2003; Thakur, Keen *et al.* 2003; Irvin 2007; Andersen 2008). The overall welfare system in Sweden 'is guided by the principle of equality rather than a needs-based ideology … [it assumes that] the welfare of the individual is the responsibility of the social collective' (Aspalter 2001, pp.8-9). One of the highest proportion of women in parliament and a generous parental leave system (gender emphasis), free health and education (equitable social welfare), liberal sickness and employment benefits, and tax arrangements based on individual salaries rather than household incomes (fair taxation) are some of Sweden's widely discussed welfare schemes that encourage an overall high standard of living (Andersen 2008).

Sweden has a large public fund dedicated for social benefits including, *inter alia*, health, education, and social protection (figure 7.1). Investments in these areas have resulted in high literacy rates, positive health, and large public assistance allowances, thereby firmly establishing strong human and social capital nationally (table 7.3). However, despite generous welfare schemes, the concept of social wellbeing, according to many young Swedes, is gradually eroding for a variety of reasons. The author was invited to an MTV Nordic press conference organised to deliver results of a research conducted on youth and wellbeing across 14 countries (Thor 2006).[6] According to the MTV Nordic research manager, 'The results for Sweden give us an eye opener. There are several elements of wellbeing where Sweden is not a front runner' (Thor 2006, p.1) (for results, see box 7.1 below).

Table 7.3: Sweden's social indicators

Average literacy rate	99%
Life expectancy	82.94 years (Female)
	78.7 years (Male)
Infant mortality	2.8 (per 1000)

Source: (Statistics Sweden 2006b; Kjellstrom, Hakansta and Hogstedt 2007)

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[6] Wellbeing was defined as a function of three criteria: sense of personal safety, social acceptance and the achievement of goals that are valued by a society. The participating countries were: Argentina, Brazil, China, Denmark, France, Germany, India, Indonesia, Japan, Mexico, South Africa, Sweden, the UK, and the US.

Figure 7.1: Public expenditure for social services

NOTE:
This figure is included on page 193
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (Statistics Sweden 2006c)

Box 7.1: MTV study results for youth wellbeing in Sweden

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of the print copy of the thesis held in
the University of Adelaide Library.

Source: (MTV Nordic 2006)

While it may not be appropriate to draw generalisations from a single study regarding Sweden's social sustainability planning, the results nevertheless highlight crucial issues that may threaten Sweden's long-term social sustainability. Besides, the MTV study – through its arguments for increasing stress, lack of community bonding, dissatisfaction with the government, the environment, and the world in general – proposes areas that require priority address to enhance Sweden's long-term sustainability.

7.3.2   Social planning achievements and challenges

While a large majority of Sweden's socio-economic policies continue to impress scholars worldwide, several social challenges have been noted that question the longevity of the Swedish welfare model and its sustainability (Madanipour, Cars and Allen 2000; Thakur, Keen *et al.* 2003; Kjellstrom, Hakansta and Hogstedt 2007; Andersen 2008).

1) Immigration and social exclusion

Traditionally, Sweden has been considered a country with fairly homogenous population (Rowe and Fudge 2003; Sellers and Lidstrom 2007). Multiculturalism, and therefore, socio-cultural diversity, is a relatively new phenomenon in Sweden. Table 7.4 below presents the proportion of foreign-born persons in Sweden's total population between 1960 and 2007.

Table 7.4: Increase in foreign population (1960-2007)

NOTE: This table is included on page 194 of the print copy of the thesis held in   the University of Adelaide Library.

Source: (Statistics Sweden 2006b)

The first major influx of Finnish and Polish immigrants in Sweden was experienced in the early 1960s (Statistics Sweden 2007b). In more recent times, the period 1994-96 has witnessed one of the largest number of immigrants, mostly from the ex-Yugoslavia region. However, 2006 recorded the highest number of immigrants (approximately 96,000) in Sweden's history for a single year (Statistics Sweden 2006d). Political refugees from Iraq comprised 11% of these immigrants, followed by natives of Somalia, Lebanon, Palestine, Serbia and Montenegro (Statistics Sweden 2006d).[7]

Large-scale immigration has resulted in socio-economic inequalities and social segregation (Cars and Edgren-Schori 2000; Statistics Sweden 2007c; Kjellstrom, Hakansta and Hogstedt 2007). Table 7.5 below presents disposable incomes (median) in 1991, 2000 and 2006 to suggest growing inequality among Swedes based on country of birth.

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[7] According to Statistics Sweden (2007b), more than half of the total number of asylum seekers in 2007 came from Iraq (51.2%) and Somalia (9.2%).

Table 7.5: Disposable income per consumption unit for individuals by country of birth

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NOTE:
This table is included on page 195
of the print copy of the thesis held in
the University of Adelaide Library.
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Source: (Statistics Sweden 2007c)
Median value in KSek and 2006 Prices;
*OECD: Australia, New Zealand, Japan, Canada, Switzerland and USA

A local researcher on gender argued, 'Sweden has done well by providing help to people from war-torn nations but when these immigrants arrive [in Sweden], they form their own clusters … The society is more or less cold towards their inclusion' (SCSS 4 2007). The author herself noticed that there was a strong presence of regional 'pockets' and 'immigrant-dense neighbourhoods' of African and Iranian households in Stockholm. For instance, *Rinkeby*, a local suburb, is often referred to by native Swedes as the 'African Ghetto' (SCSS 14 2007). In his recent work 'Even in Sweden', Pred (2000) reveals the extent of deliberate social segregation, masked racism and social disharmony that exists in Sweden towards refugees and immigrants, particularly those with non-European backgrounds. According to the European Network Against Racism (ENAR) (2007, pp. 2-4), 'There is an ethnic hierarchy with native-born Swedes at the top and non-Europeans at the bottom… [There exist] strong tendencies, particularly among well-meaning policymakers, to prioritise problems other than racism and discrimination'.

To this extent, social planning has largely remained weak in arranging Sweden's multicultural society in an all-encompassing manner that encourages social solidarity and integration between different socio-cultural groups (Lindbeck 2006). An important reason for continued exclusion of immigrant population, according to a journalist, is the apprehensive public attitude towards immigrants (SCSS 11 2007). He argued that there was a strong tendency among native Swedes to adopt issues that made them 'feel good'. Therefore, 'while the public supports the government's decisions to help refugees and immigrants, personally however, [it] is unwilling to accept foreigners into the society' (SCSS 11 2007). Due to negligible interest from the natives, policies adopted at the national and local level to encourage greater cohesion between native Swedes and immigrant groups have repeatedly failed to bring about significant

changes in social arrangements. Box 7.2 below presents a case that suggests the degree of frustration among foreign-born Swedish citizens as a result of poor social inclusion.

Box 7.2: Case story 1

NOTE:
This Box is included on page 196
of the print copy of the thesis held in
the University of Adelaide Library.

Source: (SCSS 5 2007)

While Sweden has several other marginalised groups: indigenous communities of Roma, Saami (Lappish), Tornedal, native Finnish speakers and Jews (Beijer and Bolin 2003), immigrants remain the single largest group that faces several adjustment problems due to strong cultural differences (Madanipour, Cars and Allen 2000). Different religious and language backgrounds further prevent these groups from getting actively involved in the society (SCSS 4 2007).[8] While most socially disadvantaged indigenous communities inhabit the northern municipalities, immigrants have largely settled in and around the big cities of Stockholm, Gothenburg and Malmö for reasons of better and greater employment opportunities (Rowe and Fudge 2003).[9]

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[8] A large number of immigrants arrive from the Middle-East and Africa; almost all of them follow Islam.

[9] Malmö 'has the highest immigrant population in Sweden, with unemployment reaching >85% in the inner-city neighbourhood of Rosengård' (Rowe and Fudge 2003, p.132).

Perpetual institutional inability to encourage social cohesion has led to widespread debates at the national level regarding the suitability of existing policies and governance mechanisms (Fudge and Rowe 2001; Lindbeck 2006). According to an academician, 'Strict labour market regulation pattern is just one example that can tell you how well our government is managing the issue of social segregation' (SCSS 5 2007). To this extent,

> Sweden today is at a [*sic*] crossroads. Various programmes and previous social policies are facing an impasse … the mainstream positions in the debate clearly seem to favour re-considering social policies and developing a new social concept for combating social exclusion and promoting social integration (Cars and Edgren-Schori 2000, p.256).

A journalist thus suggests that the consequences of social segregation in Sweden are 'too many and too serious' (SCSS 12 2007). Some of the most significant ones include poverty among immigrant families, extremely high rate of unemployment, violence against women, high crime level and low education among children. For 2004, 9-10% of Sweden's population was reported to be under the poverty threshold (European Commission 2007). There is rampant unemployment among immigrant groups (see tables 7.6 and 7.9).

According to Beijer and Bolin (2003, p.54), 'those immigrants who do not succeed in gaining a foothold in the employment market … are at risk of ending up in a situation of more or less permanent passivity and dependence on welfare benefits'. A national report presented to the European Commission suggests that while only 2% of Swedish-born people aged 18 years and over received financial assistance in 2003, 11% of the total foreign-born population depended on welfare benefits (Ministry of Health and Social Affairs 2005).

Table 7.6: Employment rate based on country of birth

> NOTE:
> This table is included on page 197 of the print copy of
> the thesis held in the University of Adelaide Library.

Source: (Ministry of Health and Social Affairs 2005)

A government representative suggested that heavy reliance on social security benefits was not only 'detrimental to the self-esteem of the newly-arrived [immigrants … but it also], exert[s] extra financial pressure on the State' (SGR 8 2007). Public policy initiatives for asylum seekers and other immigrants in Sweden therefore, need reform such that full-time 'real' employment among foreign-born population is encouraged (SCSS 5 2007).

On a different note, a representative of the Ministry of Integration and Gender Equality argued that the government should not always be blamed for immigrants' socio-economic exclusion:

> refugees themselves are sometimes responsible for their economically disadvantaged position … These groups are not interested in finding jobs … Their mindsets and values are transferred from one generation to another … Personally, I have witnessed at least two generations of a family where men have been part-time taxi drivers by choice (SGR 4 2007).

Another member of a political party in Sweden believed that immigrant inclusion was indeed a 'tricky and sensitive issue' (SGR 3 2007). She argued that it was common among immigrants to feel that they were 'far better-off' in Sweden when compared with their friends and relatives who remained in their homelands and did not emigrate. The interviewee suggested that such complacent behavioural patterns prevented many refugees from getting actively involved with Sweden's socio-economic life (SGR 3 2007).

Field results thus suggest contradictory viewpoints with regard to immigrants' disadvantaged social status. On the one hand, immigrants, social scientists and researchers believe that cultural differences, poor language proficiency, strict labour market regulations, a racially discriminating society and weak institutional planning instruments result in large-scale social exclusion of immigrant groups. On the other hand – although not in any way a consensus view – certain government representatives hold immigrants responsible for their own exclusion. This group believes that generous social assistance prevents many immigrants from becoming a part of Sweden's active workforce.

Finally, continued inability to address widespread social exclusion has resulted in greater institutional focus in this area (Ministry of Health and Social Affairs 2005). To augment the overall efficiency of social sustainability planning approaches, coherent strategies to promote social inclusion have been devised by the national government for a two year period from 2006-08 (Ministry of Integration and Gender Equality 2007). The new Minister for Integration and Gender Equality, *Nyamko Sabuni* – an African female from Burundi who arrived more than two decades back – is Sweden's first African to become a part of the national government (Powell 2006). According to a social scientist, Sabuni's appointment has been a positive step towards encouraging social cohesion between the native and immigrant population (SCSS 6 2007). 'The new appointment will hopefully empower immigrants, particularly women, to feel connected to Sweden's political, social and economic life.' (SCSS 6 2007)

2) *Gender empowerment*

The literature argues that Sweden has maintained a high degree of gender equality for a long time (Johnsson-Latham 2007; Kjellstrom, Hakansta and Hogstedt 2007). Long considered a 'state feminist' country (Mellstrom 2005), Sweden ranked second on the 2006 Gender Empowerment Measure (GEM) calculated across more than 100 countries worldwide (UNDP 2006). The development of a strong gender-equitable social system has greatly enhanced Sweden's efforts to achieve holistic sustainability (Goll and Thio 2008). However, studies suggest that issues related to gender equality in Sweden have much scope for further improvement (Magnusson 2000; Haavind and Magnusson 2005).

A national gender researcher confirmed that 'the 'real' performance on gender equality in absolute terms in Sweden is not yet satisfactory' (SCSS 4 2007). The respondent argued that the presence of typical male attitudes has remained unfavourable to female representation at senior levels in academia and industry. She therefore, suggested that national policymakers needed to challenge 'patriarchy' in its true sense (SCSS 4 2007). This is particularly true for women from immigrant families who are socio-economically disadvantaged due to the presence of strong patriarchal cultural mindsets. The latter have resulted in increased economic dependence upon men and high vulnerability to domestic violence (SCSS 4 2007).

In essence, Swedish women lack economic equality as salaries, and labour markets in general, are clearly gender-discriminated (Johnsson-Latham 2007). A full-time female employee in Sweden earns an average 3% lesser than a male employee (Statistics Sweden 2004b). In 2002, average disposable income for females was 30% lower than that of their male counterparts (Johnsson-Latham 2007). An interviewee suggested that 'gender equality is not a social issue alone. It is as much economic' (SCSS 6 2007). She believed that as long as women remained economically weaker than males, true gender equality would not be achieved. Approximately 36% of Swedish women are either part-time employees or occupied with low-paid jobs (Statistics Sweden 2004b; Johnsson-Latham 2007; OECD 2007c).

It is argued that the existing parental leave system is an important factor responsible for gender-based economic inequalities in Sweden (Mellstrom 2005); (SCSS 6 2007; SGR 8

2007).[10] Despite being economically generous, the system is largely gender-neutral. Fathers have a fixed irreplaceable quota of two months of parental leave while the rest of the leave (approximately one year) may be shared by either parent. In most cases however, 80% of the total leave is consumed by women, thereby resulting in long absences from the work force (Duvander, Ferrarini and Thalberg 2005; Amilon 2007). According to Duvander, Ferrarini and Thalberg (2005, p.4), women have been conventionally responsible for 'the largest part of the unpaid household and care work, exemplified by that fathers still use less than 20% of the parental leave days'.

The existing parental leave system thus not only increases long-term economic inequality between males and females but also results in weaker social networks, lack of confidence and psychological pressure for women (Amilon 2007). Recent criticism of the existing system by gender activists and national media has called for improved institutional planning action to overcome these problems (SCSS 4 2007; SCSS 11 2007). A journalist confirmed that debates calling for policy reforms to replace the existing 'shared' parental leave system by an irreplaceable 'fixed' quota (e.g. a 50-50 or a 60-40 sharing of total leave) for each parent have been quite strong over the last few years (SGR 11 2007). The latter will have multiple far-reaching benefits for females. On the one hand, a near-equitable share of leave would enable women to remain out of workforce for relatively shorter time periods, thereby ensuring increased economic equality and better professional growth. On the other hand, greater sharing of parental leave will result in changes in male attitudes and increased responsibility towards parenthood. This would, in turn, promote higher levels of female empowerment (SCSS 4 2007).

In sum, this section has discussed the efficacy of Sweden's social sustainability planning. Despite widespread social equality and generous welfare benefits, the understanding of the concept of social wellbeing, particularly among young Swedes, is not very positive. The discussion has also identified challenges that impede the efficacy of planning approaches in establishing long-term social sustainability: socio-economic exclusion of new immigrant population into the larger society, lack of social cohesion and community feelings, and economically unequal status of women. In light of these observations, it is argued that Sweden's contemporary social planning approaches, while being generally effective, require

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[10] The parental leave arrangement at the time of this study allowed up to 15 months of leave at a reimbursement rate of 80% of the last salary (Amilon 2007).

policy changes and greater integration between different welfare sources 'in order to deal with the complex needs of the modern society and deliver more 'holistic' services' (Norman and Axelsson 2007, p.532).

7.4 ECONOMIC SUSTAINABILITY

A sustainable economy is a fundamental component of holistic sustainability (Moffatt 1996). Since this research evaluates the efficacy of current sustainability planning approaches, a methodical understanding of economic planning forms an inevitable part of the agenda. Sweden's economy has played a significant role in maintaining an extensive social welfare model (Andersen 2008) but several socio-economic challenges (e.g. immigration, productivity) threaten its future economic sustainability (Lindbeck 2006). In light of these observations, this section discusses Sweden's planning approaches for long-term economic development. To begin with, it examines Sweden's economic performance in the past few decades, followed by an evaluation of Sweden's economic planning pathways, their achievements and challenges.

7.4.1   Sweden's economic progress

Sweden was a primarily agrarian economy until the mid-1900s and had a delayed process of industrialisation compared to elsewhere in Europe (Rowe and Fudge 2003). However, Sweden has developed into a strong and diversified economy where primary economic growth is in the service sectors followed by industrial – manufacturing and production – activities (Bjorheden 2006) (see figure 7.2). Despite heavy dependence on agriculture earlier, the agricultural sector currently accounts for less than 2% of annual GDP (Fudge and Rowe 2001; OECD 2005; Statistics Sweden 2007c). The country's GDP for 2005 was estimated at 2,672 billion Sek with an annual growth rate of 3-4% (NIER 2007; Statistics Sweden 2007c).

The process of Sweden's industrialisation has maintained deep roots in natural resources. In fact, 'the industrial revolution in Sweden was to a large extent 'powered by wood'' (Bjorheden 2006, p.289) and 'The high level of economic development that now exists in Sweden was originally based on … resources, such as forests, mineral ores, hydroelectric power, basic agriculture etc.' (Kjellstrom, Hakansta and Hogstedt 2007, p.59). Globalisation has however, gradually altered the dynamics of the Swedish economy. The latter is currently dependent on a

small – but some of the world's best – fleet of engineering and manufacturing businesses like Volvo, Scania, SAAB, Skanska and Electrolux (Rowe and Fudge 2003). Besides a strong industrial base, research and innovation in chemical and communications and telecom sectors has also been a significant aspect of the country's planning for a steady economic growth (Rowe and Fudge 2003; OECD 2005). Sweden's R&D expenditure – approximately 3.9% of GDP, the second highest in the world (next only to Israel's) (Statistics Sweden 2005) – is substantiated by the technology acumen of globally recognised Swedish companies like Astra Zeneca and Ericsson (OECD 2005).

Figure 7.2: Sweden's GDP for 2005 by type of economic activity

NOTE:
This figure is included on page 202 of the print copy of
the thesis held in the University of Adelaide Library.

Source: (Statistics Sweden 2007c)

Despite the presence of a strong industrial and technological base, Sweden's planning pathways to economic sustainability have invited criticism for being incapable of addressing critical socio-political challenges like: slow growth in economy (with respect to other European countries), high unemployment, low productivity, poor quality of public services, the moral hazard of generous welfare benefits, and an overall high tax burden (Rowe and Fudge 2003; Thakur, Keen *et al.* 2003; Norman and Axelsson 2007). According to a recent OECD economic survey, Sweden needs a new planning paradigm, one that is able to help its economy 'withstand the internal and external pressures that will be building up in coming years' (OECD 2005, p.22).

7.4.2   Economic planning achievements and challenges

When compared to other OECD countries, Sweden's economic progress has traditionally been slow (table 7.7). In 1970, Sweden was ranked third among the OECD countries in terms of *per*

capita income. Following the economic crisis of the mid-1990s, Sweden's economy slipped to the 16th position (Swedish Institute 2006b). However, as table 7.7 suggests, Sweden has recovered well from the debacle with an annual average % change in GDP per capita greater than the OECD average.

Table 7.7: GDP per capita (annual average % change)

NOTE:
This table is included on page 203 of the print copy of the thesis held in the University of Adelaide Library.

Source: (OECD 2005)

Sweden's economic performance, while lately being steady, nevertheless requires greater focus in order to deal with domestic issues of growing unemployment and deteriorating quality of public services (discussed below). The latter has resulted in a recent government declaration of constant economic growth as one of the two primary goals of Sweden's main economic policy (Morgan 2004).

1)   *Unemployment*

After the 1990s economic crisis, Sweden's labour market performance suffered greatly and it has not been able to fully recover since (Andersen 2008). When compared with other highly developed OECD countries, unemployment is relatively high in Sweden (see table 7.8 below). The figures suggest that Sweden's unemployment rate is above the OECD average. Of the countries mentioned, Sweden also has the highest youth unemployment – slightly less than double the OECD average.

National unemployment rate calculated for the first quarter of 2008 is estimated at 6% (Statistics Sweden 2007c). Besides, active employment is on a decline in Sweden due to a large ageing population and early retirement (Lindbeck 2006; Andersen 2008).[11] In fact, 'In 2003, the number of early retirements in Sweden was for the first time more than half a million in a population of about nine million. This was regarded as a failure of employment policy, social policy.' (Norman and Axelsson 2007, p.532)

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[11] The very old population (80+ years) in Sweden is the highest among all EU countries (OECD 2003).

Table 7.8: Unemployment rate in Sweden and other Nordic and OECD countries

NOTE:
This table is included on page 204 of the print copy of
the thesis held in the University of Adelaide Library.

Source: (OECD 2007c)
a % of civilian labour force
b (12 months or more) % of total unemployment
c (under 25) % of youth labour force

Increasing demographic changes not only demand greater public spending on health and other public services – thereby exerting pressure on the economy – but also create higher labour demand to maintain a steady economy (OECD 2003; Lindbeck 2006; Kjellstrom, Hakansta and Hogstedt 2007; Andersen 2008). At the same time, social exclusion, racial discrimination, lack of language skills, low level of education and strict labour market regulations result in high unemployment among the immigrant population. Table 7.9 shows that among the four OECD countries considered, Sweden has the highest unemployment rates for foreign-born population. Official labour force participation rates of foreign citizens for 2004 suggest an average unemployment ratio of 14 point (Statistics Sweden 2007b). The table further highlights appalling differences between unemployment rates for foreign-born and native Swedes (OECD 2007a; Andersen 2008). People from North and Sub-Saharan Africa and the Middle East face particularly high unemployment in Sweden.

Table 7.9: Unemployment rate in Sweden and other OECD countries
by region of birth (2003-04)

NOTE:
This table is included on page 204 of the print copy of
the thesis held in the University of Adelaide Library.

Source: (OECD 2007b)
a European Economic Area and Switzerland

As argued by Andersen (2008, p.46), 'the employment share of the population is the key balancing point for the financial viability of the [social welfare] model'. Weak institutional efforts for economic planning – further compounded by high unemployment – thus directly threaten Sweden's social sustainability. It is for these reasons that a steady employment rate across the country is the second economic policy goal identified by the national government (Morgan 2004).

Sweden therefore, is at policy crossroads (Rowe and Fudge 2003; Thakur, Keen *et al.* 2003; Andersen 2008). A journalist confirmed the underlying institutional confusion by arguing that 'policy reforms are required in Sweden *now* (emphasised in original) to prevent any future economic collapse … [However] the government is not sure what best route to take and what changes to adopt while maintaining the welfare policies' (SCSS 12 2007). While there is a high tax burden – approximately 51% of GDP, the highest in the world (OECD 2005) – that prevents active employment in the labour market, the same taxes provide for welfare services that have so far been the strength of the Swedish model (see table 7.10 below). Sweden's high tax system discourages people from low-income groups to take up full-time, permanent employment (OECD 2005; Gupta, Smith and Verner 2006; Swedish Institute 2006b). Besides, the concept of high minimum wages, again a feature of the welfare model, calls for greater skills and therefore, automatically excludes the less qualified, low skilled immigrant population from the labour market (Andersen 2008).

Table 7.10: Tax burden in select OECD countries (2004)

NOTE:
This table is included on page 205 of the print copy of
the thesis held in the University of Adelaide Library.

Source: (OECD 2007c)

2) *Low productivity*

Besides steady unemployment, low economic productivity further undermines Sweden's long-term economic sustainability planning (see tables 7.11 (a) and (b) below).

Table 7.11: Economic productivity growth

> NOTE:
> This table is included on page 206 of the print copy of the thesis held in the University of Adelaide Library.

a)   Labour Productivity[12]

> NOTE:
> This table is included on page 206 of the print copy of the thesis held in the University of Adelaide Library.

b)   Multifactor Productivity[13]
Source: (OECD 2001)

Although Sweden's labour productivity has crossed the OECD average in the last decade, overall productivity has remained low for several reasons. To begin with, large-scale state ownership of social services is an important factor that contributes to reduced productivity (OECD 2007b). As Andersen (2008, p.58) argues 'productivity increases are absent in the public sector'. The state's share in business over the last few decades has remained the highest among all EU countries (OECD 2005).

While the new government has undertaken national policy initiatives to privatise some important public services like hospitals (OECD 2005; OECD 2007b), a large majority of the Swedish society continues to disregard privately-owned businesses. As Swedes have traditionally been used to services that are state-owned and managed, public opposition to privatisation is rampant (Kjellstrom, Hakansta and Hogstedt 2007). According to an economist, 'Swedes need to change their conservative attitudes' (SCSS 7 2007). He argued that

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[12] Labour productivity is calculated as GDP per hour worked (OECD 2001).

[13] Multifactor productivity is calculated using a range of production factors including, *inter alia*, capital and labour inputs (OECD 2001).

privatisation – through reduced public monopoly and increased competition – would not only enhance productivity and the quality of services but would also contribute to a more diversified economic growth (SCSS 7 2007).

Furthermore, it is believed that Sweden's generous welfare schemes also restrict economic progress and overall productivity (OECD 2005; Lindbeck 2006; Andersen 2008). Factors like liberal sick leave allowance, a long parental leave structure, unemployment insurance and a strong culture of unionisation prevent the development of a stable labour force.[14] Lindbeck (2006, p.316) argues thus:

> the welfare state poses a basic dilemma. We want to be generous to individuals who are sick, unemployed or unable to work … without its *[sic]* being their own fault. But such generosity opens the doors to *moral hazard* (italics in original) … In today's advanced welfare states, the choice between labour force participation and benefit dependency is largely an issue of moral hazard.

According to an OECD (2005) study, the total hours of work in Sweden are much lower than in other OECD countries. As table 7.12 suggests, Sweden has the lowest number of annual weeks worked (35.4). Out of 52 weeks in a year, only 6.8 weeks are consumed by Swedes on an average in holidays while 9.8 weeks account for absence for other reasons (mainly sick leave/ parental leave/ study leave) (OECD 2005). Increasing absenteeism from work directly affects Sweden's economic productivity as it creates a misleading picture of total vis-à-vis actual employed workforce (see figure 7.3 below).

Figure 7.3: Effective and actual employment scenarios for men and women (1975-2005) % of total population

NOTE:
This figure is included on page 207 of the print copy of the thesis held in the University of Adelaide Library.

Source: (OECD 2005)

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[14] Sweden has 80% unionised workers; the highest among all developed countries (Morgan 2004).

Table 7.12: Absence from work: comparison between Sweden and OECD countries

NOTE:
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the thesis held in the University of Adelaide Library.

Source: (OECD 2005)

Public sector employees in particular, are observed to be absent from work on sickness leave much more than their counterparts in the private sector (OECD 2005; Lindbeck 2006). A domestic researcher confirmed that such trends of labour loss, indirectly supported by the State, have been playing a negative influence on Sweden's economic growth and productivity (SCSS 7 2007). He further argued that the national policymakers, although 'obviously worried', have failed to address such 'morally disintegrating practices through improved planning reforms' (SCSS 8, 2007).

At the same time, several Swedish politicians and policymakers believe that the ideas of relaxed social development and leisure have traditionally been given a higher preference in Sweden over economic growth (SGR 1 2007; SGR 3 2007; SGR 6 2007). As a consequence, it has been difficult to develop policies that contradict the practice of 'tak[ing] time off [from work] for personal reasons as and when we like' (SGR 3 2007). According to another senior

government representative, it would be difficult both for the *Riksdag* and the Swedish society to accept a stricter labour protocol in the future (SGR 1 2007).

As a concluding observation, this section has argued that although Sweden has managed to develop a strong and diversified economy over the last few decades, its long-term sustainability is challenged by high unemployment, particularly among immigrant communities; moral hazards arising due to lenient welfare benefits; a very high tax burden; and decreasing productivity due to resistance towards privatisation. As it appears, most of Sweden's economic dilemmas are intricately related to social issues discussed previously. The institutional inability to steer the benefits of the welfare model in the right direction further exacerbate socio-economic planning inefficacy. The economic crisis that Sweden faces requires unorthodox planning initiatives and improved governance. Active collaboration between the public, the government and business and civil societies is thus necessary to develop innovative planning mechanisms to improve overall performance in planning for holistic sustainability.

7.5   *ENVIRONMENTAL SUSTAINABILITY*

Preservation and conservation of the environment and its resources forms an integral component of holistic sustainability (Reid 1995). The Swedish government has undertaken various efforts to achieve a high environmental quality (Chadwick, Garrod and Larsson 1996; Janicke and Jorgens 1998; Kern, Jorgens and Janicke 2001; Gooch 2002; Rowe and Fudge 2003; Wibeck, Johansson, Larsson and Oberg 2006; Bogelund 2007; Kjellstrom, Hakansta and Hogstedt 2007; Goll and Thio 2008). According to Fudge and Rowe (2001, p.1530):

> The Swedish government has viewed proactive environmental management as a positive-sum rather than a zero-sum or negative-sum policy, that is its pursuit leads to gains environmentally and socioeconomically … In terms of environmental protection (and the recognition of local and global environmental limits and thresholds), it is acknowledged internationally … that Sweden has led the way in Europe, through: high-quality environmental research and monitoring linked to indicators; environmental legislation and the creation of frameworks for administration; the inclusion of environmental consideration in physical planning … the commitment to the 'polluter pays' principle; and the development of supports and fiscal mechanisms for linking environmental policy and practice.

7.5.1   Sweden's environmental objectives and economic policies

The society in Sweden has traditionally been unsupportive of strictly anthropocentric values and principles. As a result, focus on the environment and other aspects of ecology have received widespread attention from the early 1960s (Lowgren and Segrell 1991). According to Kern, Jorgens and Janicke (2001, p.23), 'some countries that had attracted attention as long ago as the 1970s as innovators are still among the [environmental] policy pioneers of today (e.g., Sweden)'. Initial environmental policies developed during the late 1970s-80s focused on regulatory abatement of local point-source emissions to address issues of acidification, eutrophication, management of solid wastes and toxicity (Lowgren and Segrell 1991). Subsequent policies focused on 'end-of-pipe' solutions that called for suitable trade-offs between environmental and social areas of interest. A nationally-recognised approach towards comprehensive policy integration between environmental, social and economic issues was however, not finalised until the declaration of the Brundtland report in 1987 (Persson 2004). The national Environmental Bill passed in 1987-88 necessitated policymaking that was both multidisciplinary and preventative in nature (Persson 2004). Several initiatives have since been taken nationally to address holistic sustainability (see table 7.13). Besides highlighting the initiatives chronologically, the table below also suggests the primary reason responsible for undertaking each action.

Recently, Sweden's national government has earmarked a sum of Sek 55 billion to develop innovative environmental policies through its Local Investment Programme (LIP) (Johansson 2007). The public policy initiative has been effective in meeting its two primary objectives: use of local knowledge to solve environmental problems at the municipality level, thereby strengthening environmental sustainability nationally; and increasing employment opportunities across the country (Johansson 2007). Subsidies offered as part of the LIP have enhanced local planning efficacy in achieving long-term socio-economic and environmental sustainability.

Of the other policy initiatives undertaken at the national level, the development of fifteen national environmental objectives is of particular interest as the latter have directed technical expertise, financial resources and civil society attention towards areas considered most crucial for Sweden's future environmental sustainability (OECD 2005; Edvardsson 2007). The objectives need to be achieved by the year 2020. Table 7.14 presents a list of these objectives along with their probability of success by 2020. The final progress is assessed using

quantitative and qualitative sub-targets and indicators. While some objectives (e.g. global warming, ozone layer) require a globally concerted approach, most others concern Sweden's domestic quality of air, water and land.

Table 7.13: Sweden's institutional planning efforts for environmental sustainability

Year	Environmental initiative undertaken	Reason
1967	Environmental agency established	To address domestic water pollution issues and in the process, become an international front-runner in managing and developing technological and policy-related environmental solutions.
1969	Environmental Protection Act established	Abatement of local point-source emissions; to address eutrophication, toxicity, and acidification.
1980s	International cooperation promoted	To address environmental threats to local, regional, and global air and water resources.
1987-88	Environmental Bill passed	To guide national and local actions in accordance with environmental demands and priorities.
1988	Sector responsibility defined	To hold all societal actors environmentally responsible for actions in their areas of interest.
1996	A 'Green Welfare State' proposed. National focus on ecological modernisation established	To achieve: efficient use of energy and raw materials, increased use of renewable and recycled products, and improved biodiversity and natural resource management.
1996	Environmental Management Systems (EMS) proposed for implementation	Implementation in all government authorities and agencies to promote them as international and domestic role models for environmental management at national, regional and local levels.
1997	Annual sustainable development reports	To inform public on progress and reflect on achievements and future challenges.
1997	Committee for Ecologically Sustainable Development formed	To develop proposals for environmental policy integration initiatives nationally and locally.
1998	New Environmental Code formulated	To set out principles and guidelines for environmental work in Sweden.
1999	National Environmental Objectives formulated (Evaluation scheduled every four years)	To keep track of national environmental performance by using indicators and targets. Also to be applied as principles to guide comprehensive planning at local and regional level.
2004	Environmental Objectives Council	To perform the first major evaluation of goal achievements.
2007	Commission on Sustainable Development	To advise government on environmental priorities by bringing together experts from different backgrounds e.g. industry, NGOs, academia, and trade unions.

Source: (Lowgren and Segrell 1991; Janicke and Jorgens 1998; Persson 2004)

Table 7.14: Swedish national environmental objectives and success probability

NOTE:
This table is included on page 212 of the print copy of
the thesis held in the University of Adelaide Library.

Source: (Ministry of the Environment 2004)

━ Negative trend (Impossible to achieve by 2020);
▲ Satisfactory performance, high probability of meeting the target;
▼ Difficult to be achieved by 2020.

While on a broader level, the objectives are cross-sectoral in scope and are applicable across all levels of governance, doubts exist regarding their long-term effectiveness. According to Edvardsson (2007, p. 313), 'some of the Swedish environmental objectives are not rational enough given the criteria of precision, evaluability, approachability, motivity and coherence … [In addition] conflicts among the criteria are common'. Yet, national and local environmental planning has benefited from these objectives in that the latter have comprehensively directed institutional focus on areas related to health, biological biodiversity and ecological management – important components of Sweden's national strategy for sustainable development (Edvardsson 2007).

Furthermore, economic instruments (e.g. taxes) have played a significant role in guiding policy changes to achieve a high level of environmental quality and resource conservation (Chadwick, Garrod and Larsson 1996; Elander 2000; Bogelund 2007). According to Bogelund (2007, p.90):

> Sweden is first and foremost an example of environmental economics at play … it is characteristic of the Swedish case that *fair and efficient pricing* (italics in original) has had a rather large success in persuading some of the most dominating actors to get motivated and active to the benefit of the environment.

The implementation of taxes on the use of pesticides and fertilizers in 1984 (Chadwick, Garrod and Larsson 1996); mileage taxes on diesel trucks in 1988 (Steininger, Friedl and Gebetsroither 2007); car taxation in the 1980s to control acidification due to exhaust emissions (Bogelund 2007); consumer taxes on CO_2 to discourage extensive dependence on fossil fuel; landfill tax to encourage recycling and reduce waste production (Rowe and Fudge 2003); and the Refunded Emission Payment (REP) system to encourage abatement of pollutants like NO_x and SO_x (Sterner and Isaksson 2006) support a history of close ties between the economy and the environment in Sweden's institutional policymaking. The recent success of congestion pricing in Stockholm (see below for detail) further supports the application of economically-powered policy instruments to achieve long-term environmental sustainability. According to an economist,

> The success rate of economic instruments and [their] contribution to large-scale environmental protection in Sweden is extremely high … [It therefore,] offers several lessons to other parts of the world, especially countries like China, India and Brazil which are following an economic path that is constantly degrading their natural environment (SCSS 7 2007).

A fair and efficient application of fiscal mechanisms in Sweden's environmental planning and policymaking suggests two advantages. On the one hand, it provides strong incentives to orientate members of the larger society towards sustainable environmental practices and increased moral responsibility. On the other hand, and more importantly, it contributes to increasing awareness among businesses that their economic behaviour needs reform 'in order to reduce the current environmental impact and move towards a more sustainable level of development' (Chadwick, Garrod and Larsson 1996, p.63).

7.5.2   Environmental planning achievements and challenges

A recent survey suggested that out of 72 international cities selected for the study, 'Stockholm is the world's greenest, most liveable city' (The Local 2007). Primary issues considered for the survey included, *inter alia*, energy prices, parkland area, waste production and disposal, and environmental policies and legislation. This section discusses some of Sweden's environmental planning efforts and their efficacy in contributing to national environmental sustainability.

1) *Waste management*

'Waste recycling is a prominent indicator of environmental sustainability in the pursuit of sustainable development.' (Tsai 2008, p.44) According to this argument, Sweden offers a good example of waste recovery oriented planning for environmental sustainability. Although the total amount of waste generated has increased since 1980, landfills have constantly decreased and the rate of material recovery through recycling has increased by almost four times in the same time period (see table 7.15 below).

Table 7.15: Household waste management in Sweden (1980-2001)

> NOTE:
> This table is included on page 214 of the print copy of
> the thesis held in the University of Adelaide Library.

Source: (OECD 2004a)

The planning and execution process of household waste management systems has positively influenced the attitudes of a large majority of the civil society, thereby encouraging them to participate in local waste recycling programs at the community or household level (Berglund and Matti 2006); (SCSS 2 2007; SCSS 17 2007). The system has gradually become more intensive with increasing financial support from the national government; currently almost 15% of the total household waste is treated biologically (Eckerberg and Forsberg 1998; Johansson, Blomqvist, Ekvall, Gustavsson, Tullin, Andersson *et al.* 2007).

At the time of this study, household garbage in Sweden was sorted into six different categories – glass; metal lids and cans; paper (newspaper, magazines); recyclable tetra packs; biodegradable kitchen waste; and plastic (Faure and Skogh 2003). As table 7.16 illustrates, Sweden's existing recycling rates far exceed EU's current target. While some municipalities have performed better than others in increasing their recycling and reducing waste production, on a broader level, the system has shown effective results (Fudge and Rowe 2001; OECD 2004a; Johansson, Blomqvist *et al.* 2007).

Table 7.16: Recycling rates and targets (%) for Sweden and EU (2001)

NOTE:
This table is included on page 215 of the print copy of
the thesis held in the University of Adelaide Library.

Source: (OECD 2004a)

[a] - Data for 2000

Although 100% efficient sorting is not always possible for reasons of negligence and lack of time, both the government and the civil society feel positive about the waste management system currently in practice (SCSS 2 2007; SGR 3 2007). According to a government representative, 'household garbage sorting in Sweden is a part of a concerted national environmental planning approach … that encourages every member of the society to participate and promote environmental sustainability from a household level' (SGR 3 2007).

2) *Stockholm congestion pricing*

Another successful planning initiative was undertaken recently in Stockholm as part of the national strategy to reduce CO_2 emissions (Swedish Road Administration 2006). After several years of national and local debates, congestion charges were finally introduced from January to July 2006 on a trial basis in Stockholm (Swedish Road Administration 2006). The system was, to a large extent, adopted from the success of London's practice of inner-city congestion charges. The primary objectives of the scheme were to reduce traffic congestion (mainly due to personal cars), promote healthy environmental conditions, and adjust people's behaviour and responsiveness towards greater use of public transportation. The tax was applicable on all cars passing through the inner city between 06 30 and 18 29 hours (Swedish Road Administration 2006). The tax value of Sek 10, 15 or 20 depended upon the time of transit. The highest amount was paid during the rush hours of 07 30 and 08 29 in the mornings and 16 00 and 17 29 in the evenings (Swedish Road Administration 2006).

The decision of implementing the system was initially opposed by a vast majority of people representing both the government and the public (SCSS 8 2007; SGR 2 2007). According to a journalist, except the part of the government that lobbied for the introduction of congestion taxes – mainly the Green Party – most people in Stockholm were strongly against the idea (SCSS 12 2007). The tax system was assumed to inhibit personal freedom to use cars and

was therefore, criticised severely. However, 'soon after the tax was implemented, even the biggest opponents felt that the system was remarkable' (SCSS 12 2007). There was a visible reduction in traffic congestion and harmful emissions. Traffic volume decreased by more than 15% and 24% during the morning and evening peak hours respectively while the rate of public transportation use increased by almost 10% during the same time period (Andersson 2006; Congestion Charging Secretariat 2006). Table 7.17 provides an estimate of total reduction in emissions in Stockholm during the trial period.

Table 7.17: Estimated reduction in emissions from road transport
(Stockholm congestion pricing trial period 2006)

NOTE:
This table is included on page 216 of the print copy of the thesis held in the University of Adelaide Library.

Source: (SLB-analys 2006)
* defined as a total area of 35 km x 35 km across central Stockholm.

A transportation consultant argued, 'The effects were quick to show up … people could readily feel positive changes in traffic organisation during those six months' (SCSS 8 2007). Stockholm's congestion tax trial scheme was therefore, largely successful. The support that the architects of the scheme received from the public has finally contributed to permanently implementing congestion tax in Stockholm in late 2007 (SCSS 8 2007; SGR 2 2007). Finally, Stockholm's congestion pricing offers a remarkable example for other regions in the world as it strengthens the role played by innovative institutional planning initiatives in positively transforming conventional public attitudes, thereby enhancing the chances of operationalising long-term environmental sustainability.

3) *Renewable energy transport*

The transport sector maintains the largest share in Sweden's total CO_2 emissions (see table 7.18). As part of the national environmental planning strategy to reduce global warming – and cut down the country's dependence on fossil fuel – various efforts have been undertaken to

increase the use of renewable energy in meeting transportation needs (Elander 2000; Fudge and Rowe 2001; Gustavsson, Elander and Lundmark 2006; Martensson and Westerberg 2007).

Table 7.18: CO_2 emissions (Million tonnes) by sector usage in Sweden (2005)

NOTE:
This table is included on page 217 of the print copy of
the thesis held in the University of Adelaide Library.

Source: (OECD 2007c)

Sweden's big cities and some municipalities operate hybrid inner-city buses that run on ethanol and biogas and release water as the primary exhaust (Fudge and Rowe 2001; Nordstrom 2006; Johansson, Blomqvist *et al.* 2007; Pawlowski 2008). The percentage of harmful emissions from these hybrid buses is much lower than from traditional diesel-run buses (BEST 2005).[15]   Recently, the government has also announced a project to develop electric hybrid vehicles which could be charged directly from wall sockets. The project cost is estimated at Sek 62 million and will be jointly funded by the Swedish Government and the Swedish Energy Agency (Nilsson 2008).

With regard to Sweden's personal car ownership, the total number of green cars has been gradually increasing nationally.[16] Approximately 55 000 new green cars were registered in Sweden in 2007, thereby taking their share to 18% of the total car market (Swedish Environmental Protection Agency 2008). In Stockholm County alone, 36% of all cars are classified as environmental friendly (The Local 2008). The increased use of such cars may be attributed to several economic incentives – a one-time subsidy of 10,000 Sek; exemption from sales tax and vehicle tax for the first five years; no parking fees throughout the use of the vehicle; and exemption from congestion taxes – currently being offered by the government (Elander 2000; Swedish Road Administration 2006; Ministry of Finance 2007).[17]

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[15] Compared to a diesel-operated bus, the reduction in emissions from an ethanol-bus is as follows: Nitrogen oxide: -28%, Carbon monoxide:-80%, Hydro carbon: -50% and Particulate matter: -60%.

[16] See Appendix 7(a) for Sweden's definition of 'green cars'.

[17] The current subsidy of 10 000 Sek for all environmental friendly cars running on biofuel is being further supported by a one-time government grant of the value of 20 000 Sek for those private customers who buy electric cars (The Local 2008).

According to a journalist who owned a green car, the economic benefits were indeed a decisive factor for a large majority of Swedes who opted for such cars (SCSS 11 2007). Another young Swede believed that:

> It is only a myth that electric or green cars are unaffordable. I have just started working and I have one [such car] … There is so much support from the government. If you really want to help Sweden's environment, you can afford; there is no doubt about it (SCSS 15 2007).

Despite such generally positive attitudes by members of the civil society, there are political groups which believe that green cars remain an economically unfeasible option for several Swedes (SGR 2 2007; SGR 3 2007). A member of the Green Party argued that government subsidies were insignificant in value and therefore, the percentage of such cars in Sweden's total car fleet remained very small (SGR 3 2007). She suggested that 'bio-gas or ethanol cars are unaffordable for most middle-class Swedes … they need to be made more economical to encourage greater reduction in the total number of fossil fuel cars' (SGR 3 2007).

While the government is increasingly encouraging people to purchase green cars, a transport researcher argued that it was not the most sustainable solution from the perspective of Sweden's long-term road transport and infrastructure planning (SCSS 8 2007). He believed that increasing government subsidies for green cars could lead to a rebound effect in the future. 'Since green cars do not pay any taxes and fee, there is a strong incentive for Swedes to switch to these cars sooner or later' (SCSS 8 2007).[18] A direct consequence of such financial incentives would be increased congestion across the big cities (Fudge and Rowe 2001), thereby impacting Sweden's long-term traffic movement. Instead, he argued that national policymakers should focus on improving the public transportation network as the latter, 'is the most practical solution both with regard to Sweden's environment, and its infrastructure and spatial planning' (SCSS 8 2007).

4)   Global warming

Over the last decade, Sweden's national planning for environmental sustainability has focused on global warming as *the* priority issue (Gustavsson, Elander and Lundmark 2006). As mentioned previously, national policymakers have established the Commission on Sustainable

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[18] During the interview, the respondent informed that going by the current rate of increase in the number of green cars, the existing fleet of cars in Sweden could be wholly replaced by environmental friendly cars by 2012-13 (SCSS 8 2007).

Development (CSD) – an advisory body to the government – to address varied sustainability issues through a greater exchange of ideas and knowledge between economists, scientists, policymakers and others. CSD's evolution has been a result of increased acknowledgment by Sweden's decision making authorities of the need for environmental policy integration across social and economic issues at national, regional and local levels (Persson 2004; Ministry of the Environment 2007).

According to a senior CSD member, a large majority of the commission's activities have so far focussed on climate change (SGR 1 2007). The profile of the commission's work on global warming has included, *inter alia*, organising discussions to identify areas of cooperation between business and government representatives, developing reports for the government that suggest possible institutional policy changes to contain global warming nationally and regionally, and providing a consultative platform for exchanging technical ideas with academic and professionals researching in areas related to climate change.

Having said this, excessive focus on global warming at the national level has invited strong criticism from different quarters of the Swedish society (SCSS 3 2007; SGR 1 2007; SGR 6 2007). A member of the *Riksdag* argued that the behaviour of national policymakers towards global warming was quite similar to the 1993-94 national focus on Agenda 21 (SGR 6 2007). He confessed, '[Agenda 21] became a hot issue overnight but the focus suddenly turned off and there was no media attention anymore … I don't know how global warming would be treated over the next five years in Sweden' (SGR 6 2007). In similar vein, an ex-government representative to the EU believed that it was important for the national government to develop a broader perspective in its sustainability planning exercise (SCSS 3 2007). 'The national policymakers have been identifying sustainability with the climate change issue, [which] is not realistic.' (SCSS 3 2007) He thus suggested that the sudden focus on global warming was making the Prime Minister act 'funny and naïve'.

Despite several efforts by the national government to address climate change – e.g. establishment of the CSD, provision of funds for research on electric cars, subsidies to encourage purchase of environmental friendly vehicles, and increased focus on material recovery – it is surprising that Sweden's general public attitude towards global warming has not changed significantly. One example to support the above argument is Sweden's fleet of passenger cars, which is the largest in Europe (Kageson 2005). Furthermore, on an average,

Sweden's cars release approximately 189 gram of CO_2 per kilometre; much higher than the EU-prescribed limit of 130 gm CO_2 per kilometre (Meyer and Peterse 2007). Besides, the presence of a large percentage of high-emission Sports Utility Vehicles (SUV) nationally further suggests widespread lack of public concern towards global warming. The percentage of SUVs with respect to total number of cars is one of the highest in Sweden – between 7 to 8% (Kageson 2005). According to a transport researcher, SUVs were more of a fashion statement in Sweden and that Swedes were ready to spend up to Sek 100 000 extra to purchase an SUV besides the lifetime extra cost of higher-than-average fuel consumption (SCSS 8 2007).

5) Energy

Energy production has long been a serious issue of concern in Sweden. Currently, there are two main sources of energy: hydro power and nuclear, accounting for approximately 46% and 47% respectively of the total energy demand in Sweden (Engstrom, Wadeskog and Finnveden 2007; Statistics Sweden 2007a) (See table 7.19 below). The remaining supply is achieved through bioenergy, conventional thermal power and wind power (Bjorheden 2006; Martensson and Westerberg 2007; Statistics Sweden 2007a).

Table 7.19: Primary energy supply in Sweden (2005) in Mtoe[19]

> NOTE:
> This table is included on page 220 of the print copy of
> the thesis held in the University of Adelaide Library.

Source: (OECD 2007c)

Sweden's high dependence on nuclear power for energy production has led to several debates between social researchers, environmentalists and members of the Green Party, economists, and the general public (Elander 2000; Bjorheden 2006). Out of a total of 12 nuclear plants in the country, two reactors were shut down in 1999 and 2005 after massive protests from the Danes (World Nuclear Association 2007).[20] The remaining ten reactors are currently in active operation (Statistics Sweden 2006a).

The debate regarding nuclear power use has been particularly long because opinions across the Swedish society strongly differ. While the environmentalists believe that a complete phasing-out of nuclear energy is essential for Sweden's long-term social and environmental

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[19] Mtoe: Million tonnes of oil equivalent.

[20] These plants were 30 kilometres from Copenhagen and were therefore, repeatedly opposed by the Danish government and its citizens.

sustainability (SGR 3 2007), popular public reactions seem to agree with the government to continue the use of nuclear power. A media representative, for example, argued that nuclear energy was a much better option than using coal for electricity production mainly because its contribution to global warming was negligible (SCSS 11 2007).

According to an ex-Green Party representative, the government referendum of 1980 concerning nuclear power use neither clearly supported the operation of nuclear plants nor suggested an outright disregard for nuclear energy production (OECD 2004b); (SCSS 4 2007). She argued that most Swedish policymakers were unwilling to stop nuclear energy production for as long as there was no threat of any accident and the costs of operating nuclear plants remained economically feasible. Another interviewee believed that Swedes were becoming non-critical of issues as sensitive as nuclear power (SCSS 3 2007). He confessed – without really hoping for – that a new disaster was probably needed to pull people out of their comfort zones and bring them back into an activism mode to protest against the use of nuclear power in the country (SCSS 3 2007).

According to a journalist, Sweden could not afford to stop nuclear energy use mainly because 'there are no other energy sources currently available in the country that can adequately substitute [for] nuclear energy' (SCSS 12 2007). Traditionally, the national government's focus on innovative renewable energy production has been insignificant (Eckerberg and Forsberg 1998; Soderholm, Ek and Pettersson 2007). According to various municipalities:

> The potential of transferring local energy systems from the present use of fossil fuels and nuclear power into renewable energy sources depends largely on the design of national policy instruments (but also on the possibility of investment from the national level). So far, national policy instruments have rarely supported the use of renewable energy (Eckerberg and Forsberg 1998, p.346).

Furthermore, the government has been facing increasing demands from the public to curb any further exploitation of hydropower because the country has already extracted hydroelectricity to the maximum capacity (Bjorheden 2006). Under these circumstances, Sweden requires innovative public policy decisions that encourage the exploration and development of new mechanisms to address its current energy conundrum.

In conclusion, this section has discussed Sweden's environmental planning achievements and challenges. Sweden's national policymakers have undertaken various initiatives to achieve a high environmental quality. Elaborate household waste management and garbage sorting, material recovery and recycling, congestion tax, renewable energy based public transport, and economic incentives to encourage the purchase of environmental friendly cars demonstrate various institutional decisions that have positively influenced Sweden's environmental sustainability.

Having said this, Sweden faces several challenges that may hinder its transition to holistic sustainability in the future. Excessive focus on climate change at the cost of neglecting critical domestic socio-economic problems, large-scale reliance on nuclear power, lack of national focus on renewable energy production, and high CO_2 emissions from personal cars are important issues that restrict the efficiency of Sweden's planning approaches in achieving long-term environmental sustainability.

7.6 HAMMARBY SJÖSTAD: A CASE OF SUSTAINABILITY PLANNING IN SWEDEN

This section presents a recent local urban regeneration project – Hammarby Sjöstad – founded on the principles of sustainability. The underlying idea is to evaluate the extent to which the project has been successful in operationalising holistic sustainability. The section begins with a background on Hammarby Sjöstad and the underlying sustainability principles that have guided its development process. It is followed by a discussion of the project's current environmental and social challenges. Finally, the section suggests important lessons that Hammarby Sjöstad offers to other regions in the world with regard to sustainability planning and operationalisation.

7.6.1   Background and environmental objectives

Hammarby Sjöstad – or the Lake City – is located in Stockholm. It is a sustainable urban development venture, spread over an area of 200 hectares facing the Hammarby Lake (Vestbro 2005). The area was an old contaminated industrial site, most famous around the early 1930s for the sales office of General Motors and the Luma bulb factory (Dastur 2005). The factory represents Sweden's early architectural concepts and has therefore, been preserved as a conference centre to maintain its cultural and historical significance.

Due to the presence of varied industrial activities in the area and the adjoining harbour (used for sea transport across the Baltic), there was heavy pollution (including high toxicity) of both land and water. Besides being considered a highly polluted area, there were also academic (for historical/ archaeological/ cultural) and emotional (social/ psychological/ ancestral) interests which prevented modern redevelopment of the area. However, due to increasing housing demands in Stockholm during the 1990s, presence of a great waterfront and proximity to the city centre, the city authorities considered Hammarby Sjöstad an ideal place for residential development (Johansson and Svane 2002).

In 1995, when the Stockholm city authorities decided to bid for the 2004 Olympics, Hammarby Sjöstad's sustainable eco-development project was born (Vestbro 2005).[21] To strengthen its application for the Olympics bid, Hammarby Sjöstad was marketed as the Olympics Village with an underlying theme of 'sustainable city living' (Johansson and Svane 2002). Hammarby Sjöstad has therefore, gradually evolved into a 'unique environmental friendly project' that boasts of a closed-loop ecological management system and high environmental sustainability (Rowe and Fudge 2003). Long-term environmental objectives and planning based on sustainability principles has transformed the old industrial brownfield site into an urban development example that offers valuable technical and environmental planning lessons to other regions in the world.

At the time of this study, the project's first phase was already over. The total cost of the project is estimated at around Sek 20 billion. The City of Stockholm has contributed one-fourth of the total amount while the rest is provided by the area's developers (SCSS 10 2007). By the end of the project's completion in 2011-12, approximately 8000 housing apartments would be constructed and close to 30 000 people would be associated with the area – either as residents or workforce (Johansson and Svane 2002; Rowe and Fudge 2003; Vestbro 2005).

The project's planning and development authorities have focused on six primary objectives to ensure long-term environmental sustainability (Engberg and Svane 2007):

1. *Land use* – restore green spaces and natural Oak forests located close by, reuse underused land, create high density development ('compact city' strategy);

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[21] The bid was finally won by Greece.

2. *Public transportation* – encourage at least 80% of the total transit by bus, tram, bicycle or on foot;

3. *Energy* – limit usage to 60kWh/m^2 and year, focus on renewable sources to the maximum possible extent, for example, encourage biogas production;

4. *Waste management* – identify special collection system for paper, organic waste and combustible waste, treat grey water, redirect nutrients to farmlands;

5. *Construction* – encourage use of environmentally sustainable building material, develop energy saving designs; and

6. *Noise* – reduce noise to well under human acceptable levels.

Personal visit to *Sickla Udde* (Johansson and Svane 2002) – the first phase of development, completed and inhabited – suggested that the above environmental objectives have been followed through all stages of the development, including current residential occupation. The project has developed an integrated management system of various environmental processes (Bylund 2006). This integrated mechanism – 'The Hammarby Model' – encourages a closed loop exchange of environmental resources between Hammarby Sjöstad and the outside environment, thereby ensuring long-term environmental sustainability (see figure 7.4 below). Appendix 7(b) explains the working of the Hammarby Model.

Figure 7.4: Closed loop environmental friendly Hammarby Model

NOTE:
This figure is included on page 224 of the print copy of the thesis held in the University of Adelaide Library.

Source: (Hammarby Sjöstad 2007)

7.6.2   Environmental and social challenges

Despite a 'novel' ambition, Hammarby Sjöstad has struggled with socio-political issues that have, in turn, challenged its vision of 'sustainable city living' (SCSS 7 2007; SCSS 9 2007). The project's information officer suggested that political interference during the design and planning stages has resulted in significant reduction in the project's environmental efficiency (SCSS 10 2007). Two issues have been of particular concern. During initial planning, average parking space was fixed at 0.5 places per flat. It was believed that low availability of parking places would encourage people to rely more on public transportation. However, due to pressure from political groups, average parking space was increased to 0.8 per apartment (Johansson and Svane 2002; Vestbro 2005). The decision has 'heavily impacted the project's [environmental] objective of encouraging greater use of public transportation' (SCSS 10 2007).

The other issue that has invited long debates between political representatives, architects and environmentalists was related to the use of windows. Lake Hammarby's waterfront was considered one of the most attractive reasons for residential land use (Vestbro 2005). As a result, arguments in favour of designs using large windows facing north (lake is positioned to the north of the site) were made. The project's environmental planners however, believed that such large windows would reduce energy efficiency by at least five to ten times (Svane 2005). Yet, due to strong political support to plans with large windows, environmental efficiency was 'compromised' in the final development. 'Despite several arguments, the politicians preferred aesthetic beauty over energy efficiency … [this] contributed to poor environmental performance.' (SCSS 3 2007)

Besides, it is argued that the project had only limited public involvement during its development (Rowe and Fudge 2003); (SCSS 9 2007). Large-scale public awareness regarding the sustainability theme of the project was lacking. According to the information officer, 'focus on the most important [environmental] issues during the project's promotion was clearly missing' (SCSS 10 2007). For a majority of people who chose to live in Hammarby Sjöstad, two primary factors played a decisive role: the natural landscape, and the area's proximity to city and the *Nacka* shopping area. According to members of a family living in *Sickla Udde*, they were not completely aware of the environmental system existing in the area before they decided to purchase the apartment: 'We bought this house because the neighbourhood is new and

fashionable … the environmental system applied here is very good but initially we did not know about it … no one really informed us' (SCSS 16 2007).

The information officer also suggested that some developers were worried that Hammarby Sjöstad's ecological concept could lead to apprehension among prospective customers (SCSS 10 2007). As a result, the developers removed the 'eco-city' idea from their marketing strategies and declared a free car as a complimentary gift with every purchase (SCSS 10 2007). The officer confirmed that politicians did not make any significant attempts to prevent such 'anti-environmental' advertising campaigns. These marketing strategies, by contributing to an increased personal vehicle ownership rate, have affected the project's long-term environmental sustainability.

Furthermore, planners, developers and politicians have put little emphasis on the project's social sustainability aspects. The monthly rent of approximately Sek 10 000 for an average 2-bedroom apartment (80 square metre) in *Sickla Udde* is higher than in central Stockholm (SCSS 9 2007). Due to heavy pollution and soil contamination, site cleaning and land decontamination has required huge financial investments. Besides, the environmental 'closed-loop' concept has also called for new and innovative technological solutions that have, in turn, involved huge costs (SCSS 11 2007). As a result, final price of these flats has remained on the higher side of the residential price spectrum in Stockholm.

Due to high prices, only people belonging to high income social groups have been able to afford apartments in the area (Rowe and Fudge 2003; Dastur 2005). Therefore, in terms of social arrangements, the area lacks a diverse mix. In order to compensate for the evident lack of social cohesion within the project, a fixed number of flats have been provided to students at subsidised rates (Vestbro 2005).[22] Apart from this, a small number of apartments have also been given to the cooperative housing company of the City of Stockholm which, in turn, provides low-rent housing to families in need like single mothers, mentally challenged and the elderly (Vestbro 2005). Despite these attempts, Hammarby Sjöstad has 'remain[ed] very expert-led and costly, and the wider community has been little involved' (Rowe and Fudge 2003, p.131).

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[22] Out of an existing total of 4000 apartments, approximately 300 flats have been set aside for students.

7.6.3   Lessons from Hammarby Sjöstad

There are several important lessons that Hammarby Sjöstad offers to other regions to strengthen their sustainability planning efforts. The project is responsible for developing innovative planning schemes that enhance its long-term sustainability. Effective car pooling systems and regular environmental education and awareness campaigns for the residents are two such initiatives that have been successfully implemented (Svane 2005); (SCSS 10 2007). The project officer informed that approximately one-tenth of all households were members of the car pool system, resulting not only in an efficient use of transportation but also in stronger community ties and social interaction (SCSS 10 2007). The latter, she believes, 'is no more a common practice in the existing Swedish society that is increasingly becoming more and more individualistic' (SCSS 10 2007). Most car pools are used by elderly women and single mothers for shopping at the nearby *Nacka* shopping centre.

The information office – *GlashusEtt* – conducts regular environmental education meetings by providing information on Hammarby Sjöstad's primary environmental objectives and encouraging residents to contribute towards meeting these goals (Hedstrom, Wallmark, Alvfors, Rissanen, Stridh and Ekman 2004). The alternative energy system based on fuel cell technology that powers *GlashusEtt* is the first of its kind in Sweden (Hedstrom, Wallmark *et al.* 2004). The exhibition hall of the information office demonstrates the new technology and conducts energy efficiency programs and lectures to raise residents' awareness of environmentally sustainable lifestyles (SCSS 9 2007). The information officer believed that the above efforts have positively influenced people's behaviour towards the new 'eco-cycle' Hammarby model (SCSS 10 2007).

As a concluding observation, planning for Hammarby Sjöstad has invited mixed responses with regard to its efficacy in achieving sustainability objectives. While according to some, 'the project was a great idea but remained incapable of establishing true sustainability for various political and economic reasons' (SCSS 3 2007), others argue that 'Hammarby [Sjöstad] is a positive learning experience that shows how people can be encouraged to participate in an environmentally friendly lifestyle … it may have drawbacks but the lessons are far more in absolute number' (SGR 2 2007). Although Hammarby Sjöstad has scope for further improvement from a socio-political standpoint, it has nevertheless successfully operationalised a closed loop renewable resource based environmental model. In doing so, it has provided a

strong case in favour of planning innovative technological solutions and quantifiable objectives to achieve long-term environmental sustainability.

CONCLUSION

Sweden is widely presented as a model whose efforts in establishing holistic sustainability offer several lessons to other regions in the world. This chapter has evaluated the efficacy of Swedish planning in achieving sustainability across institutional, social, economic and environmental issues. The discussion has suggested that Sweden has successfully transferred varied decision making responsibilities to local municipalities. While this has resulted in a bottom-up approach to governance and a more effective needs-based sustainability planning, increased local autonomy has limited the role of regional bodies, thereby affecting vertical and horizontal integration and coordination across different sectors and units of governance.

On the social front, Sweden maintains a strong and equitable welfare model that provides generous unemployment, sick and parental leave benefits. However, persistent exclusion of immigrant groups from the larger Swedish society has begun to threaten Sweden's long-term social sustainability and cohesion. The chapter has also argued that gender equality – despite being relatively high when compared with most countries – needs more effective policies to generate greater economic equality between the two sexes. In addition, although Sweden has stabilised after the mid-1990s crisis, its future economic sustainability is vulnerable to issues related to high unemployment among immigrants, strict labour market regulations, widespread opposition to privatisation, low productivity of the public sector, possible exploitation of generous social benefits and an increasing demand for services due to changing demography.

Furthermore, the efficacy of Sweden's environmental planning approaches has been quite satisfactory. Various public policy initiatives undertaken nationally and locally – waste management and garbage sorting, economic incentives to control pollution, congestion pricing, and investments in public transportation infrastructure – have delivered a high environmental quality in Sweden. Having said this, excessive national focus on global warming at the cost of institutional neglect towards critical socio-economic issues has been widely criticised. Besides, the lack of institutional focus on renewable energy production, and extensive domestic private

car usage resulting in high rates of CO_2 emission are two environmental challenges that threaten Sweden's current and future environmental sustainability.

As a final observation, the challenges mentioned in the study do not in any way undermine Sweden's planning efforts to achieve holistic sustainability. In fact, the study acknowledges important lessons – environmental and social – that can be drawn from Sweden's sustainability planning practices. On the contrary, the study findings suggest that improved policy reforms and changes in contemporary planning pathways are necessary for Sweden to reinforce its long-term objective of 'represent[ing] a social, political, and economic equilibrium … built over time and on a deep consensus' (Thakur, Keen *et al.* 2003, p.104). The next chapter analyses these results and discusses the planning 'process' in detail to better guide Sweden – and other countries – in making a smooth transition to holistic sustainability.

CHAPTER EIGHT

DISCUSSION AND ANALYSIS

INTRODUCTION

Chapters Six and Seven have provided a comprehensive account of achievements and challenges associated with sustainability planning across socio-cultural, economic, environmental and institutional dimensions in Kerala and Sweden respectively. This chapter draws together arguments made earlier in the thesis to analyse and discuss the efficacy of planning pathways applied in Kerala and Sweden to operationalise long-term holistic sustainability.

The chapter is organised in five sub-sections. It begins by examining how Kerala perceives sustainability, institutionally and socially. Section 8.2 assesses the efficacy of Kerala's sustainability planning approaches by using the substantive and process criteria developed in Chapter Four. Section 8.3 discusses the understanding of sustainability prevailing in Sweden's existing socio-economic and institutional culture. It is followed by an evaluation of Sweden's planning efficacy in operationalising holistic sustainability. The final section produces a comparative analysis of the degree to which planning pathways in Kerala and Sweden are able to successfully operationalise sustainability. Finally, the chapter ends by summarising significant findings regarding the efficacy of contemporary planning approaches adopted by Kerala and Sweden to achieve holistic sustainability.

8.1   UNDERSTANDING SUSTAINABILITY IN KERALA

Chapter Six has established Kerala's achievements including, *inter alia*, high literacy levels, good social health indicators, mobilised civil society, large scale public participation and a relatively equitable spread of services across urban and rural areas. These aspects of Kerala's social development process have resulted in its 'model' image; one that provides valuable lessons for developing regions seeking to enhance their social development (Parayil 2000). Intensive decentralisation and local capacity building approaches adopted by Kerala's policymakers have firmly established the role played by an active civil society in guiding future-oriented positive development (Isaac and Franke 2000; Tornquist 2000b).

Despite such accomplishments, Kerala has been unable to address a multitude of challenges, essential to make the transition to holistic sustainability. Two important factors may explain this. One, several varied and often opinionated perceptions of sustainability among different socio-political groups have prevented the state from developing a broad but uniform knowledge base on sustainability issues and priorities. Frequent changes in the state government have further enhanced institutional instability, thereby resulting in politically different agendas. Two, until recently, Kerala's sustainability planning has focused mostly on the normative dimension of sustainability, thereby primarily dealing with social issues of justice, equity and gender equality. However, as Becker, Jahn and Stiess (1999) suggest, long-term operationalisation of holistic sustainability requires simultaneously strengthening issues related to governance and the inter-relation between the society, economy and the environment.

Besides, Kerala has been unable to maintain futurity and equity in its development process (Giddings, Hopwood and O'Brien 2002). Increasing socio-economic inequality due to widespread Gulf migration, significant differences in the provision of social services between northern and southern districts, socially disintegrating double standards among its populace, and the tendency among the policymakers to consider fishing and tribal communities largely 'outlier' groups highlight Kerala's inability to uphold the essential constituent elements of sustainability presented earlier in Chapter Two (table 2.2).

Further, the state's planning authorities have, for a very long time, ignored the significance of multidisciplinarity, harmony and cohesion in achieving sustainability (Eichler 1999). Kerala's inability to transform itself into a wholly sustainable region may be explained through its excessive focus on partial sustainabilities (Sachs 1999). Sustainability planning in Kerala has failed to strike intelligent trade-offs, thereby neglecting crucial environmental and economic concerns. Kerala has therefore, remained unsuccessful in utilising its high social development indicators to enhance its economic and environmental sustainability. The latter, in turn, has restricted its efficacy in achieving long-term holistic sustainability.

It is suggested therefore, that Kerala's existing sustainability planning approaches need to be reformed such that the general understanding of sustainability is not only uniform across different social, economic and institutional groups but is also all-inclusive and multidisciplinary to ensure both long-term qualitative development and quantitative growth.

8.2   *SUSTAINABILITY PLANNING IN KERALA*

This section employs results presented in Chapter Six to evaluate how effective are Kerala's contemporary planning approaches in operationalising holistic sustainability. It uses the substantive and process criteria developed in Chapter Four to evaluate Kerala's planning performance.

8.2.1   Substantive planning in Kerala

1)   *Planning for social sustainability*

Kerala has traditionally valued social equity and equal access to natural resources (Ramachandran 1996). The state authorities have undertaken several efforts to provide basic services like food, education and healthcare. High primary literacy rates, the country's highest rate of newspaper circulation, a positive sex ratio, and low infant and child mortality rates are some indicators suggesting Kerala's deep-rooted commitment to improved social quality of life and progressive development (table 6.1)

Despite these achievements, the state's social development suffers from issues like severe dowry demands, India's highest rate of alcohol consumption among the most productive age group, high suicide rates, conservative – and often gender-discriminating – traditions, high morbidity, increasing economic inequality and gradual rise in crime rates. By undermining Kerala's traditionally strong sense of social security and harmony, the above issues are considered threats to the state's future social sustainability.

Finally, it may be argued that Kerala has successfully addressed essential social needs such as primary education, food and health, which are important stepping stones towards operationalising sustainability in the context of a developing region. Having said this, the state is unable to develop effective public policy initiatives to address what some researchers in the field referred to as "the second-generation problems" (KGR 1 2006; KGR 4 2006). Failure to provide solutions to the challenges mentioned above could lead to social disintegration, thereby resulting in irreversible impacts on the state's chances of achieving long-term sustainability.

2) *Planning for economic sustainability*

Economic growth has long been one of Kerala's most discussed challenges. Despite high primary literacy rates, a large number of Kerala's school going students remain without any professional degree. Lack of technical education among its workforce coupled with the absence of a strong industrial and manufacturing sector, high daily wage demands and a strong culture of unionisation has resulted in Kerala having India's highest rate of unemployment. Under these situations, Gulf migration has provided unemployed Keralites with several manual and skilled job opportunities. While Gulf remittances have significantly improved Kerala's economic situation in the last three decades, they have had several negative repercussions on the migrant's family. Besides, the Gulf money has also led to increasing income disparities, thereby resulting in high socio-economic inequality. The latter is considered a serious menace to Kerala's long-term social and economic sustainability.

Recent policy initiatives by the state government to enhance tourism and IT-related business opportunities have contributed to diversifying Kerala's economy. Investments in these sectors are expected to provide a firm foundation to Kerala's future economic sustainability by reducing its current heavy dependence upon Gulf remittances. While tourism has attracted outside research capacities and businesses to engage Kerala's traditional knowledge of *Ayurveda* and medicinal herbs in furthering its economic development, the IT sector – through its global outreach and national and international clients – has boosted Kerala's research and innovation capacity.

Finally, although Kerala continues to rely heavily on Gulf migration for its economic development, intelligent institutional decisions are gradually changing the course of Kerala's future economic sustainability. However, a significant number of school dropouts, excessive interference by trade and labour unions and a prolonged absence of 'knowledge economy' are socio-economic concerns that require innovative solutions from Kerala's policymakers.

3) *Planning for ecological sustainability*

Kerala's policymakers have neglected the state's environment for more than three decades. The two most significant environmental issues that threaten Kerala's environmental sustainability are waste management and degradation of the environmental quality. Existing institutional arrangements have repeatedly failed to develop long-lasting solutions to address these environmental concerns.

Kerala lacks a scientifically-tested solid waste treatment mechanism. The state's growing consumerism is resulting in a constantly increasing rate of waste generation. Due to the absence of a formal waste management system, municipal and industrial wastes continue to be dumped in open spaces, thereby leading to severe outbreak of several deadly diseases like the Dengue fever and Chikungunya in recent years. Besides, widespread tourism further aggravates Kerala's environmental situation. Although a promising instrument to boost Kerala's economy, tourism has led to extensive water and land pollution, destruction of unique habitats, loss of biodiversity, reduction of marine life, and uncontrolled generation of waste followed by its dumping in the backwaters.

Other significant factors that have adversely impacted Kerala's environmental quality are: continuous logging of trees, a growing desire for globalisation by expanding industrial and business activities, rising vehicle ownership rates, excessive usage of non-renewable energy sources for meeting transportation needs and lack of research on renewable technology. Besides, negligent behaviour of Kerala's policymakers towards the environment and poor environmental awareness among the population has resulted in socio-political ignorance towards possible 'future environmental disasters'.

In summary, Kerala's planning for environmental sustainability has received a low-priority focus for several decades. As a consequence, different combinations of factors mentioned above have resulted in failed institutional attempts towards restoring Kerala's environmental quality and natural biodiversity.

4) Planning for institutional sustainability

Kerala's government has traditionally undertaken several initiatives to ensure long-term socio-economic wellbeing in the state. Some of the most prominent early attempts by Kerala's policymakers included, *inter alia*, land reforms, abolition of caste barriers, spread of education, and formation of labour unions for workers in formal and informal sectors. Peaceful existence among different socio-economic and religious groups strengthens the role played by the government in ensuring social cohesion and harmony in the state. Furthermore, Kerala's policymakers have undertaken several pro-public mass capacity building programs like Kudumbasree, the Total Literacy Campaign and the People's Plan Campaign. Although the final degree of success of these programs has been widely debated, they have nevertheless

provided a strong example – to the rest of the country and the world – of the potential of innovative planning through bringing together the public and the government.

Despite frequent changes in the state government, most of Kerala's political institutions have successfully protected labour, encouraged civil society participation and promoted social development and cohesion among its people. There is no doubt therefore, that Kerala's policymakers have been largely effective to the extent of addressing basic human needs like education, health and food. However, the state's inability to positively transform Kerala's socio-cultural mindsets, develop a sustainable economy that could retain its workforce, prioritise environmental concerns and attend to depleting natural resources call for public policy changes that are able to deliver an improved planning mechanism to operationalise holistic sustainability on a long-term basis.

8.2.2   Planning 'process' in Kerala

1)   Contextual reference

Kerala's planning authorities consider local immediate and future needs to develop a sustainability plan. To this extent, Kerala's sustainability planning is tailored to the state's own political, social and economic conditions. Kerala's extensive decentralisation process, resulting in the inclusion of a bottom-up approach to plan-making, financial allocation and plan execution, strengthens the above argument. By officially adopting decentralisation as a governance tool, policymakers have acknowledged Kerala's high rate of civil society participation in public affairs and the presence of a generally well-informed public of the state's social and economic performance.

Having said this, negligent attention by the planning authorities towards environmental degradation has threatened Kerala's environmental and socio-economic sustainability. As a result, conventional planning methods have led to several developments over the last two decades that are ethically inappropriate towards the environment and the people depending upon it for basic survival.

2) Consistency

Kerala maintains broad consistency with national planning directives through its five-year state plans that largely follow guidelines from the central government. Besides, Kerala has also developed its own vision for sustainability planning that ensures consistency between plans formulated at the state and local level. The presence of a formal planning body, the Kerala State Planning Board (KSPB), coordinates national, state and local planning priorities. It also ensures fair consistency between planning processes across various departments. While the Board members argue that efforts are constantly made to maintain high levels of consistency, they nevertheless acknowledge that the overall degree and quality of consistency across various planning levels has much scope for further improvement.

Furthermore, although consistency in plan-making and execution declined during the concluding phases of the PPC due to pressure to meet deadlines, lack of transparency and incompetent staff, internal consistency between plans at various levels within the state – districts, grams, municipalities and wards – has constantly improved in the post-PPC period.

3) Integration

The level of integration currently existing in Kerala's planning process is inadequate. Although there have been cases in the past (e.g. the Silent Valley Agitation) where active civil society mobilisation has opposed economic growth to preserve environmental quality and biodiversity, the general extent however, to which integration is practiced in Kerala needs further improvement. It is suggested that integration across varied disciplines is better at the local block and village level than at higher levels in the governance structure. Due to the former's finite scope of activities and a smaller scale of reference, integration is both efficient and sought after.

Further, integration during planning is better within a single dimension of sustainability than across several different dimensions. For instance, Kerala has managed well to integrate issues like gender and education (social elements) in planning for social sustainability. However, the state's ability to cross-integrate gender with employment and labour market has remained erratic.

4) Planning scope

Kerala's planning process has been unable to diversify its scope to include various substantive dimensions of sustainability discussed in Chapter Two. Social development has long been Kerala's primary sustainability concern. The early 1980s witnessed a change in priorities when policymakers shifted focus towards developing the state's economic potential. Preservation and conservation of the environment and the ecological quality are issues that have been considered only recently in Kerala's sustainability planning agenda. The state government has not only failed to extend environmental awareness among the local population but has also been unable to control the state's growing consumption patterns and increasing loss of biodiversity.

Kerala's planning for sustainability therefore, requires a greater all-encompassing scope. The state's planning authorities need to reinforce the importance of multidisciplinarity not only in theory during plan-making but also in practice during plan implementation and follow-up.

5) Consensus building

For a large majority of planning issues, a broad level of consensus exists between Kerala's planning authorities and the local public. With respect to the process of plan-making and drafting, different departments and authorities agree on general planning guidelines and procedures. Kerala is a classic example where the relationship between the government and the civil society is largely reciprocal which, in turn, positively influences Kerala's long-term sustainability planning. The PPC is a case in point. The decentralisation process and the resulting devolution of funds has not only enhanced people's decision making capacities but has also strengthened public trust in political institutions, thereby enhancing chances of consensus building.

Communicative action and collaborative planning therefore, have a strong presence across the state. The PPC has firmly established public consultations and consensus building as important instruments for efficient sustainability planning in Kerala. Having said this, the current planning process largely ignores 'outlier' groups mentioned in Chapter Six. As a result, consensus building, while being generally satisfactory in Kerala, has further scope for improvement.

6) Planning agenda

Kerala's sustainability planning process employs a multitude of resources, human and material, to formulate the final planning agenda. The political vision plays a significant role in developing the agenda. The KSPB maintains a technical advisory role in the agenda setting process by encouraging consultations between representatives of various groups – government, civil society, academic researchers, and private consultants – to suggest current and future sustainability priorities. The state planning authorities therefore, undertake extensive care to encourage the policymakers to draw a needs- and context-based agenda outline at the state level.

At the local level, state guidelines are combined with local negotiations and consultations to finalise a comprehensive agenda for sustainability planning. The final contents of the agenda include, but are not limited to, issues like decisions regarding final projects, participation of members, devolution of funds, allocation of other human and material resources, spill-over commitments from previous years' agenda, time commitments, procedures for plan evaluation, and feedback generation.

7) Support from the government

Kerala's policymakers and planning authorities have traditionally supported equitable social development. Extensive decentralisation, resulting in large-scale devolution of funds and decision making powers to local self-government bodies, has contributed to grassroots empowerment and local capacity building across the state.

Having said this, Kerala's planning process follows a rigid system where rules and regulations are outdated. Despite several efforts undertaken by the KSPB to bring about planning reforms, political interests have often restricted the Board's functioning. To this extent, Kerala's policymakers are not willing to transform planning strategies according to changing sustainability priorities. Besides, Kerala's government has remained passive towards employing new tools and technological innovations to foster effective plan-making and implementation.

Furthermore, the study highlights a strong tendency among Kerala's planners to identify development with expansion. The ignorance of planning authorities towards Kerala's degrading environmental quality further confirms the state's traditional planning preference for social and

economic sustainability. Therefore, while Kerala's governments have been highly supportive of democratic decentralisation and social and economic development, their resistance towards reforms in the planning process and lack of support for environmental planning and natural resource management has reduced the overall efficacy of Kerala's sustainability planning approaches.

8) Plan evaluation and adaptability

The KSPB is not completely satisfied with the existing plan review and evaluation mechanisms applied during planning. The latter essentially evaluate the financial aspects of a plan without recognising the significance of a plan's socio-cultural, economic, environmental and institutional impacts on the larger society. The audit process, although existing, has rarely produced satisfactory results. The results from evaluation provide guidelines for planning financial and other resources for subsequent plans. The failure to satisfactorily evaluate sustainability plans in Kerala has therefore, impacted the probability of success of future planning endeavours.

While the evaluation of a plan at the village level involves people in true sense, the state plan is reviewed at the end of the financial year by the Legislative Assembly. Due to its limited scope, and therefore fewer associated intricacies, a local plan is relatively easy to be evaluated and reviewed compared to a state plan. This, in turn, results in plans at the lower level (eg. block or village) being more adaptive and responsive to changes than those at the state level.

9) Transparency and accountability

At the state level, the planning process often lacks transparency due to increased political authority exercised during agenda setting and plan formation. Although newspapers and media in Kerala have made earnest attempts to enhance transparency and accountability in the daily working approach of political leaders and bureaucrats, the final result in terms of encouraging complete transparency in planning processes remains unsatisfactory. Kerala's incompetent plan evaluation mechanisms further reduce transparency and accountability during the planning process.

It is suggested that transparency in planning across various governance levels has increased in the post-PPC period. Due to a high rate of public participation during plan design and development, the civil society has become more assertive and critical of government's

programs and policies. This has, in turn, reduced the rate and incidence of corruption, thereby leading to greater accountability among planning authorities. Having said this, there is further scope for improvement in terms of including all sections of the public during early planning stages, and making budget allocation and expense-related decisions public. Further, while the right to information has existed in Kerala for several years, its real potential in increasing transparency and reducing corruption is yet to be realised.

10) Stakeholder participation

Two factors have contributed to a high rate of actor participation in Kerala's sustainability planning process. One, traditionally, Kerala has an active civil society where most people across different socio-economic groups are aware of their own rights and the responsibilities of the government and policymakers. Two, the government has repeatedly undertaken efforts to facilitate interaction with the public. For instance, one of the PPC's primary objectives was to establish a long-term trend of mass engagement and participatory planning in the state.

At the local level, the northern districts have participated more rigorously in planning compared to their southern counterparts for two reasons. Firstly, Kerala's north has historically maintained a more dynamic civil culture in that the locals have been aggressive in terms of both demanding and accepting changes. Secondly, the capital – Thiruvananthapuram – being in the south, political power has physically resided in the south, thereby leading to relatively higher corruption in the region coupled with limited people-centric planning strategies.

On a macro level, while socio-economically weaker sections of the society including informal industrial and agricultural labourers, teachers, and retired government officers have been active participants in Kerala's sustainability planning process, the upper-middle class business, political and social groups have been rarely involved. Furthermore, while the participation rate at the local level has increased post-PPC, the quality of interaction and collaboration has deteriorated. The latter is a direct consequence of the absence of an apolitical motivational force – e.g. a local government officer, a social worker, or a local activist – that can encourage high quality public involvement through various stages of Kerala's sustainability planning process.

11) Temporal span

Kerala follows a multi-level planning method, thereby taking long periods of time to formalise plans. At the local level, a *gram sabha* takes up approximately three months to formulate its priorities and develop a plan for various projects. The final plan is then approved by the district planning committee, which can take up to four months. On an average, planning authorities require six to eight months to discuss issues, establish priorities, devise detailed plans, seek approval of the higher authorities, obtain essential resources, and implement the final plan.

Often the implementation of a new project is delayed due to time consuming administrative sanctions for financial and other resources. Although the latter is expected to take a maximum of two months, in practice, however, the process takes much longer, often up to seven months in some cases. Finally, most policymakers suggest that the actual time spent between the stages of plan design and implementation is far greater than expected.[1] Political vested interests; lack of suitable human and financial resources; corruption, bureaucracy and similar unethical administrative practices; and careless attitude of authorities towards meeting deadlines are some important factors that result in long delays during planning and implementation phases. The latter, in turn, impede the final efficacy of Kerala's sustainability planning process.

12) Inclusion of local knowledge

Kerala's planning process brings together people with different backgrounds, thereby making various kinds of local knowledge available for consideration in the planning process. Public consultations offer useful platforms to the civil society to contribute its knowledge and understanding in the process of developing planning priorities and procedures. Kerala's traditional medicinal industry provides a useful example that corroborates the above arguments. Kerala's local knowledge on *Ayurvedic* medicines and massages is exported to the rest of the world. During the development of plans related to expanding this sector for increased economic returns, locals have been thoroughly consulted for help with issues like availability of medicinal resources, basic facilities required for running the businesses, and long-term management of these centres.

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[1] The time span mentioned above does not include pre-plan field research undertaken by some departments (see below).

Having said this, there are socio-economic groups whose opinions are often ignored during planning. Females and fishing communities are particularly disadvantaged at sharing their knowledge in the design and development of plans which may impact their day-to-day social existence in the future.

13) Degree of pre-planning research

Kerala's sustainability planning undertakes a fair amount of research before and during the planning process. Field exercises are conducted as part of the pre-planning process to develop a better informed picture of the 'real' issues. Public consultations are arranged as part of the exercise to incorporate local needs, suggestions and knowledge. Besides, the responsible personnel study related reports from research institutions and private consultancies to gain an improved theoretical understanding of current and future planning priorities. At different stages, policymakers and the members of the KSPB hold meetings with academic and civil society organisations for advice related to project implementation and important technical details. Each department in Kerala maintains its own guidelines suggesting the process of conducting field research. Pre-planning field research takes approximately 7-9 months in most cases.

Despite these attempts, the state's higher planning authorities remain unsatisfied with imprecise research currently undertaken by several departments. Although pre-planning research is slowly becoming mandatory across all departments, existing research efforts are of poor quality and mostly sporadic. On a general basis, new projects result in a more extensive pre-planning research exercise to ensure their long-term practicality. However, in cases where an old project is continued, there is a dearth of fresh efforts made to understand possible changes in goals, strategies and local needs.

14) Value addition

Sustainability planning process in Kerala has added enormous value to both theoretical and practical knowledge on sustainability at the state and local level. The civil society has become better informed of the skills and technical knowledge essential for planning for sustainability. There is a high degree of awareness across Kerala regarding theoretical and practical differences between a plan, project and a scheme. The PPC has been particularly significant in encouraging 'learning by doing', thereby empowering the locals to participate and add value to Kerala's sustainability planning process. The empowerment has made people more aware of existing bureaucratic and administrative bottlenecks at the local level. This has, in turn, led to

quicker implementation of projects, reduced corruption, improved transparency in government dealings and more responsive local and state planning authorities.

However, there is further scope for improved value addition to Kerala's existing knowledge sources. The state's oldest civil society organisation, the KSSP, has observed that several research projects conducted in Kerala do not directly add value to the state's existing social, economic and environmental conditions. As a result, a new research agenda – that may tap Kerala's vast sources of traditional knowledge and local expertise – is called for to contribute knowledge to Kerala's sustainability planning pathways.

This brings the end of the discussion of the first case study. The following section analyses the second study in Sweden. To begin with, it discusses the understanding and knowledge of sustainability that currently exists among Sweden's political and social groups. It is then followed by an evaluation of how effective Sweden's existing planning pathways are with regard to operationalising holistic sustainability.

8.3 UNDERSTANDING SUSTAINABILITY IN SWEDEN

Chapter Two has established that the process of understanding and operationalising sustainability differs across different regions (Becker, Jahn and Stiess 1999; Lamberton 2005). Given that several socio-cultural, economic, environmental and institutional differences exist between Kerala and Sweden, it is not surprising that both regions have followed different routes to achieve the desired end-state of sustainability. Firstly, since the scale of operation for both study regions is different – one is a state of a developing country, while the other is a highly developed nation-state – the spectrum of responsibilities and power relations associated with each region is beyond comparison. Secondly, due to its highly developed state of social, economic and environmental quality of life, Sweden's long- and short-term priorities and objectives are very different from those of Kerala.

Chapter Seven has discussed some of Sweden's biggest achievements in operationalising sustainability across several dimensions. An extensive social welfare system, internationally-respected technical and research capacity, decision making autonomy to municipalities, successful application of economic instruments to enhance environmental quality, high levels of

social trust, and transparency between the civil society and policymakers are some examples that corroborate Sweden's international reputation of a highly sustainable society.

Despite these accomplishments, Sweden faces several socio-economic and environmental challenges, e.g. socio-economic exclusion of its immigrant population, possible misuse of welfare benefits, lack of national focus on renewable energy production and generally high-consumption lifestyles. An analysis of these and other issues suggests that Sweden's policymakers have been unable to address, *inter alia*, increasing social disharmony and lack of social cohesion (ethics and justice), growing socio-economic inequalities (equity), cultural issues of over-consumption, and futurity. In light of these arguments, Sweden's existing understanding of holistic sustainability is considered partial and therefore, unsatisfactory.

Furthermore, although the national government has formulated four priority issues that guide planning for holistic sustainability across various governance levels, the primary agenda of Sweden's national policymakers however, has retained a strong ecological focus for several years. While Sweden's civil society acknowledges the significance of high environmental quality in achieving long-term holistic wellbeing, it has gradually started to criticise the government's negligent attention towards other sensitive social and economic issues. To this extent, Sweden contradicts Moffatt's (1996) understanding of sustainability as a tetrahedron where ecological, social, economic and ethical elements are arranged without any inherent hierarchy. Sweden's prolonged focus on the environment has resulted in the creation of a hierarchically organised national framework of plans and policies, thereby weakening the idea of holistic sustainability. Sweden is thus a case of political irony; on the one hand, Sweden's planners and policymakers appreciate the complexity around the concept of sustainability, while on the other hand, they do little in practice to strategically include multidisciplinarity and diversify the scope of planning to encourage holistic sustainability.

8.4   SUSTAINABILITY PLANNING IN SWEDEN

This section draws together the results presented in Chapter Seven to assess the efficacy of Sweden's contemporary planning approaches in operationalising holistic sustainability. In doing so, it uses the substantive and process criteria developed in Chapter Four to evaluate Sweden's sustainability planning.

8.4.1   Substantive planning in Sweden

1)   *Planning for social sustainability*

Sweden has one of the best social welfare systems in the developed world (Fudge and Rowe 2001). The welfare benefits are not only extensive but also equitably distributed across various sections of the Swedish society (Thakur, Keen *et al.* 2003; Andersen 2008). However, lately, a multitude of challenges have threatened the long-term feasibility of the welfare model, thereby raising concern over Sweden's future social sustainability.

Sweden's policymakers have repeatedly failed to address growing racial discrimination and social exclusion of immigrant groups (Cars and Edgren-Schori 2000; Pred 2000). Besides weak institutional policies in encouraging greater social cohesion, parts of the native Swedish society have also shown indifference towards accepting foreigners into the mainstream social life. As a consequence, the Swedish society, particularly its youth, have experienced lack of social interaction, weak community feelings, poor sense of belongingness, and increasing insecurity (MTV Nordic 2006).

Furthermore, despite being one of the most gender equitable societies in the world, Sweden's socio-economic policies have restricted gender equality in absolute terms. Social planning in Sweden has encouraged patriarchy in the society by continuing to support gender-based salary structures, an essentially gender-neutral parental leave system, and a high percentage of females occupied with part-time or low-paid jobs (Haavind and Magnusson 2005; Amilon 2007). In light of these observations, Sweden's existing planning approaches require further strengthening and reformation in order to better address the above challenges from a long-term perspective.

2)   *Planning for economic sustainability*

Sweden's policymakers have focused on developing a strong research and technology-based economy that has helped the country recover successfully from the mid-1990s crisis. However, despite a large resource base of manpower, technology, finances and expertise, Sweden's economic growth has remained relatively slow until recently. The latter has primarily been due

to an inability on the part of Sweden's planning authorities to address some critical economic challenges.

Sweden has traditionally maintained a large share of state-sponsored public bodies (OECD 2005). Despite an evident low economic productivity of public services, Sweden's policymakers have been unable to address divided political and social opinions regarding privatisation, thereby failing to deliver a suitable future-oriented solution. Furthermore, Sweden's economic planning has been ineffective in tackling high unemployment among its youth and immigrants. This has led to increased dependence of these groups on social benefits thus further exerting pressure on Sweden's social welfare model. Besides, national planners and policymakers have largely ignored a possible relation between long work absences in the public sector and an unethical exploitation of generous welfare benefits (Lindbeck 2006).

Finally, Sweden's planning approaches for economic sustainability have been ineffective in addressing unemployment, low rise in productivity and a possible misuse of welfare benefits. These challenges together do not only impact Sweden's future economic development but also its chances of enhancing the social welfare model, and thus its social sustainability. To this extent, Sweden's sustainability planning process requires a cross-disciplinary outlook to ensure holistic sustainability.

3)   Planning for environmental sustainability

Sweden's policymakers have undertaken several efforts to ensure long-term environmental sustainability. The Commission on Sustainable Development (CSD), an efficient household garbage sorting system, congestion pricing scheme in Stockholm, economic incentives to encourage the use of green cars, and a strong national focus on global warming are some of Sweden's most significant initiatives to ensure a high quality of national, regional and local environment. Most of the above attempts highlight Sweden's innovative policy decisions and the institutional capacity and willingness to plan for their successful implementation.

Having said this, two important environmental challenges, central to Sweden's future environmental sustainability, remain unaddressed. Firstly, despite a strong national focus on climate change, environmental planners have been unable to contain Sweden's CO_2 emissions from cars within the EU limit (Kageson 2005). The latter has thus offset Sweden's performance in meeting related environmental targets of clean air, non-toxic environment and reduced global

warming. Secondly, Swedish environmental authorities have long ignored the importance of developing extensive renewable energy sources. While this has, on the one hand, led to prolonged use of nuclear energy, thereby resulting in huge national debates, on the other hand, with the exploitation of hydro-power already to its maximum, the lack of renewable energy production has resulted in a national energy impasse.

Finally, on a macro level, Sweden's environmental planning has been widely successful. It offers several positive lessons in environmental planning and management to other regions in the world seeking to enhance their environmental sustainability. However, improved governance and innovative planning mechanisms are required to help Sweden develop new energy sources and address national environmental concerns.

4) *Planning for institutional sustainability*

Sweden's policymakers have undertaken a variety of initiatives to enhance Sweden's chances of achieving holistic sustainability. The transfer of extensive decision making power to municipalities, establishment of the CSD, focus on technological innovation and research, and high levels of transparency across all levels of governance have positively influenced Sweden's long-term institutional sustainability.

At the same time however, negligence towards the weakening authority of regional county councils, excessive national focus on global warming while ignoring important social and economic challenges, failure to encourage socio-economic empowerment of immigrant groups, and prolonged inability to deliver firm decisions on nuclear use and privatisation have undermined Sweden's institutional capacity to operationalise holistic sustainability. Besides, strong differences have existed between the understanding of sustainability at national and local level. The latter has resulted in institutional discrepancies with regard to sustainability priorities, thereby restricting the degree of cooperation between various units of governance.

Finally, Sweden's institutional arrangements have played a significant role in establishing a comprehensive set of social, economic and environmental achievements at national, regional and local levels. In relative terms, while Sweden's achievements are noteworthy, there are challenges still to be addressed to make Sweden a wholly sustainable region. So far, the policymakers have remained unsuccessful in delivering suitable solutions to varied immediate and future concerns discussed in Chapter Seven. To expedite a realistic operationalisation of

Sweden's sustainability goals, it is therefore, essential to revise current policymaking and planning approaches adopted at the institutional level.

8.4.2   Planning 'process' in Sweden

Before evaluating Sweden's sustainability planning process against the criteria developed earlier in Chapter Four, an important point related to Sweden's practice of planning needs to be acknowledged. On a macro level, Sweden's policymaking body associates planning with its conventional meaning of physical development of a region. Planning in Sweden is therefore, largely related to physical and spatial issues that guide the development of sustainable built environments. As a result, the idea of planning lacks a cross-disciplinary perspective essential for operationalising holistic sustainability.

Furthermore, although Sweden maintains a formal planning system that develops and reviews laws and policies related to physical development, it lacks a central planning authority that cuts across various departments and issues to develop a uniform sustainability planning process to be followed across the country. As a result, each department and ministry follows its own set of procedures and guidelines, thereby resulting in diverse sustainability planning pathways. Due to the absence of a formal central authority and the resulting lack of a planning process blueprint, it has been difficult to analyse the efficacy of the Swedish sustainability planning process strictly according to the theoretical framework developed for this research. The discussion below thus attempts to produce an extensive account of Sweden's sustainability planning process based on the experiences of national and local government representatives, academic planning experts, and independent consultants. The application of diverse planning processes and guidelines across different departments and governance levels may also restrict the extent to which analytical generalisations may be drawn regarding the overall efficacy of Sweden's planning process in operationalising holistic sustainability.

1) Contextual reference

By transferring extensive decision making powers to local bodies, national policymakers have encouraged the municipalities to plan for their development and growth based on the interests and needs of the local community. Greater autonomy with local governments has also led to increased public participation and interaction during the planning process.

Having said this, Sweden's planning authorities have remained unable to deliver suitable policy changes to better address issues such as strict labour market regulations, social exclusion of immigrants and their high unemployment rates, and a high tax base. Several combinations of these issues have resulted in Sweden's planning practices being unethical towards certain sections of the society, thereby restricting the overall efficacy of the sustainability planning process.

2) Consistency

On a macro level, a high degree of consistency – with respect to long-term sustainability objectives – is maintained between local, regional and national plans in Sweden. However, planning at the municipality level often ignores national sustainability objectives that lack direct significance for local sustainable development. Energy, transportation and environmental toxicity are some of the national objectives that are considered highly relevant to local planning. Climate change – although a strongly focused theme at the national level – has remained a secondary issue for several municipalities in their sustainability planning agendas. Since most municipality authorities recognise that global warming is an international issue, more pressing short-term local demands are prioritised over the climate change issue.

Finally, although national objectives generally guide regional and local planning exercises to a substantial extent, diverse control and power relations across national, regional and local levels lead to inconsistencies through several stages of the sustainability planning process including, *inter alia*, determining priorities, formulating plans and implementing them in practice.

3) Sectoral integration

Sweden's sustainability planning process encourages a fair degree of integration between several disciplines and sectors. While there is no single authority that is directly responsible for improved integration across various disciplines, each department or sector encourages, in its own capacity, cross-integration with others to achieve better efficiency in sustainability planning. For matters pertaining to the environment, the CSD – through its members from business, government and the civil society – is the principal authority that encourages integration across various disciplines. The increasing use of green cars suggests a recent example that testifies the existence of cross-sectoral integration in Sweden's national sustainability planning process. The use of economic incentives to encourage the society to

purchase environmental friendly passenger cars has not only positively influenced Sweden's environmental quality but has also increased social awareness about global warming and its consequences.

Despite various attempts at integrating social, economic, environmental and institutional policies for effective sustainability planning, Sweden's practical performance in operationalising holistic sustainability at national and local level is still far from satisfactory. The issue of gender inequality is a case in point. Swedish women continue to lag behind men due to weak pro-gender socio-economic planning at the national level. At the municipality level too, cross-sectoral integration across social, economic and environmental issues and also between aspects within each sector requires further improvement. Sweden's existing planning pathways for sustainability therefore, call for radical policy changes to encourage more extensive sectoral integration.

4) Scope of the plan

The process of planning for sustainability in Sweden is fairly pluralistic. The four primary sustainability themes proposed by the national government necessitate the application of a multidisciplinary approach in operationalising sustainability. On a macro level, planning process undertaken by the municipalities is more multidisciplinary than the one followed at the national level. Extensive decentralisation coupled with a limited scope of activities – and therefore, a reduced degree of complexity – allows the municipalities to better translate their objectives into positive outcomes.

Having said this, social and institutional tendencies to ignore wasteful consumption practices that degrade the social and environmental quality of life restrict the 'real' extent to which Sweden's sustainability planning processes may be considered pluralistic. Therefore, Sweden's planning scope, while generally being satisfactory, needs to be further enhanced to increase the chances of operationalising holistic sustainability.

5) Consensus building

Broad agreements exist between national, regional and local governments with respect to fundamental principles of sustainability. Autonomous powers to municipalities help them decide their own priorities through regular scientific and non-scientific consultations. The process of achieving consensus for sustainability planning is relatively easy at the national level. On the

other hand, diverse personal and political agendas at the municipality level – further reinforced by the conspicuous absence of a stringent regional authority – are responsible for disrupting the process of consensus building during various stages in the local sustainability planning process. Politicians and business organisations at the local level are often more concerned about economic expansion. This, in turn, restricts the scope of planning prescribed by the national policymakers. The ensuing differences between long- and short-term priorities for local and national politicians have often resulted in delays and reduced overall efficacy in operationalising holistic sustainability.

6) Planning agenda

The planning agenda in Sweden is decided at the highest level of the governance structure. Politicians and policymakers at the national level determine the course of Sweden's national sustainability planning exercise whereas their counterparts at the municipality level set the agenda for local planning. At the national level, the CSD – in its advisory capacity – helps the government in developing a long-term sustainability planning agenda through several research and consultation exercises involving participants from diverse backgrounds. The agenda not only helps in determining immediate and future priorities for sustainability planning and operationalisation but also suggests an action plan to guide a variety of other processes including, *inter alia*, resource allocation, formulation of implementation strategies, and decision on tools necessary for evaluation and long-term monitoring.

Although there is no single authority that is directly responsible for the development of a planning and implementation agenda, different departments at various levels hold regular meetings and consultations with their technical and non-technical staff to finalise the agenda. The inputs from various departments and external consultation bodies are used by the politicians to formulate the final agenda for sustainability planning at the municipality, county and national level.

7) Support from the government

Sweden's national government determines primary sustainability themes, which then guide sustainability planning at the local level. The transfer of decision making power to the municipalities has been the biggest support from the national government. This has, in turn, empowered the local bodies to build their own capacities and plan according to local priorities and public demands. National support for innovation and research and development has led to

technological advancements that have been equitably shared between all regional and local authorities. In certain cases, regional counties have supported their municipalities by partially funding salaries of some of the latter's employees.

Having said this, local politicians have occasionally developed indifference to social and environmental priorities by strictly adhering to political agendas and economic interests in the past. This has led to differences between politicians and staff members with regard to planning for short- and long-term sustainability. The lack of support from 'responsible and accountable' public representatives in planning for holistic sustainability has thus permanently established the chasm between the 'real' and the 'superficial' in Sweden's institutional arrangements.

Furthermore, Sweden's civil society is not completely satisfied with the national government's performance in planning for holistic sustainability. Long institutional delays in dealing with issues like nuclear energy use, high unemployment and conservative planning policy mechanisms have led to strong public resentment against national planning authorities. The present government's sustainability planning approach – with its primary focus on global warming – has failed to incorporate a broader perspective to sustainability operationalisation, thus further intensifying dissatisfaction among vast sections of the society.

8) *Plan evaluation and adaptability*

The process of plan evaluation in Sweden is undertaken in an informal manner at the department level. There is a lack of official information regarding the general extent to which sustainability plans in Sweden are adaptable. However, according to staff working with local municipalities, after a plan is implemented, a report is presented to the local council by the authority responsible for plan design and implementation. The report states the degree to which the plan meets the initial objectives and how public consultations were held during the planning and implementation phases. Internal departmental audits are conducted to present a summary of yearly achievements and to suggest how improvements may be made in the preparation and implementation of future sustainability plans.

However, due to the absence of a central planning body, each department and ministry undertakes plan evaluation differently, thereby resulting in a variety of mechanisms used for evaluation and feedback generation across various municipalities and counties. Broadly speaking, Sweden maintains a weak plan evaluation process at the municipality level. Often,

municipality staff members have shown concern regarding the poor quality of evaluation reports, thereby requesting politicians for a greater focus on evaluation as part of the political agenda at the local level. However, such requests have been given a low priority by local and regional policymakers thus further undermining the efficacy of existing sustainability planning approaches.

9) *Transparency and accountability*

Being a pro-public system, the society's right to information is clearly established in Sweden. All information documents are publicly accessible unless a piece of information can be declared as confidential. The Swedish media is fairly active in bringing public attention to institutional inefficacies. Legal protection is offered to journalists and others who share such sensitive information. At the same time, several sections of the civil society doubt the relevance of the information disclosed by the media. Often, the information is trivial and therefore, restricts the extent to which transparency and credibility in Sweden's sustainability planning approaches may be established.

With respect to accountability for planning and implementation, the absence of a formal planning authority makes it difficult to establish a single source that may be held accountable for a plan's success or failure. The department responsible for the plan's implementation is the primary contact for the civil society to gain relevant information. On some occasions, deadlines and resource constraints have made it impossible to undertake extensive public consultations, thereby undermining the authenticity of the whole planning exercise. Besides, past instances suggest the presence of corruption in Sweden's socio-political arrangements. Since the 'real' corruption is more common – but not limited to – among politicians and bureaucrats at the highest level of hierarchy, it is not directly and immediately experienced by the public.

10) *Stakeholder participation*

The rate of public participation during various stages of Sweden's sustainability planning process is high. Through widespread decentralisation, national institutional arrangements have boosted actor participation by a large measure. Local council meetings, awareness raising roadshows and public consultations have played a significant role in bringing together people from varied backgrounds to discuss and analyse their priorities in planning for local holistic sustainability.

Sweden's civil society has long been sensitive towards various national planning decisions – related to pollution, asylum seekers, global warming, Iraq war, social security benefits and unemployment – that may affect long-term holistic sustainability. The Stockholm congestion pricing scheme trial supports this argument. Despite initial resistance, the scheme's positive effects on the environment and social mobility have led the public to support permanent implementation of the tax in Stockholm.

Furthermore, national committees established to expedite sustainability planning – such as the CSD – include several representatives from the civil society. Researchers, private consultants, business and trade representatives contribute to the national social, economic and environmental sustainability planning process. The media is also active in informing the public about national and local sustainability policies, thereby constantly encouraging the society to remain involved with Sweden's holistic sustainability planning.

11) Temporal span

Due to the absence of a formal sustainability planning authority, it was difficult to determine the average time taken in Sweden between plan design and implementation stages. While there is no general policy that guides the temporal span of different stages in the planning process, timely operations or delays in planning are a result of a combination of factors including, political interest and cooperation, resistance from the civil society, other priority demands at the local and national level, and funding constraints.

At the municipality level, formulating priorities and developing the actual plan can often take up to eight months. These stages include activities – e.g. convincing local politicians of the long-term utility of the plan, developing public consultation platforms to obtain social opinions and feedback on various aspects of the plan, and ensuring a constant flow of resources and management – that involve long waiting periods. Besides, if the local plan contradicts national sustainability objectives or hinders sustainability planning in neighbouring municipalities, permission from regional county authorities is required before finalising the plan. The latter causes further delays, thus impacting the plan's overall efficacy.

Stockholm congestion tax, initiated by the Green Party, provides a useful example that suggests long delays in deciding upon, and subsequently developing a plan. It took more than two and a half years for the Greens to convince the national decision makers, obtain feedback

from the public, make resources available to set up the system and finally get the scheme implemented on a trial basis. In certain cases where the plan requires reinitiating an old program that has been dysfunctional for a long time, a much longer time period is involved. For instance, it took almost three years for a municipality representative to obtain a formal decision from her local politician to reopen a school, which was closed in the first place due to an insufficient number of students.

12) Inclusion of local knowledge

Sweden's government has constantly shown keen interest in bringing together members with varied backgrounds for planning for sustainability. Business leaders, researchers, academicians, renewable energy experts, civil society representatives, union leaders, media representatives, agriculturists, and gender experts have been involved at various stages of national and local planning for sustainability.

While committees like the CSD have enabled national policymakers and planning authorities to encourage a rigorous exchange of knowledge and expertise between different sources, the inclusion of local knowledge in planning for sustainability at the municipality level is rather limited. Although almost every municipality has developed its own Agenda 21 plan, personal and political interests have disrupted the process of successfully implementing it. Despite regular public meetings to understand local problems and encourage the civil society to share knowledge and experiences, the extent to which their knowledge is included during the process of local sustainability planning in Sweden has remained unsatisfactory.

13) Degree of research undertaken

Although there is a lack of any formal policy guideline on mandatory pre-planning research, most departments undertake independent pre-planning research exercises. The latter provide them with socio-political opinions and interests that would be useful in the final development of national and local sustainability planning strategies. Currently, pre-planning research essentially relies on public consultations, media's awareness raising programs, and national and local government sponsored surveys. As an example, the decision to finalise 16 national environmental objectives was based on extensive research on present and future trends of Sweden's environmental quality.

While pre-planning research is given due consideration at the national level, Swedish municipalities need to enhance the degree of research undertaken prior to the start of the actual planning process. The quality of research conducted by the municipalities is poor and does not provide a future perspective to sustainability. Often, political agendas guide the research process and thus limit the scope of the field research. As a consequence, unsatisfactory levels of pre-planning research undermine the feasibility and credibility of the local sustainability planning process.

14) Value addition

Increasing social awareness of environmental issues like global warming and renewable energy use has added significant value to Sweden's existing national and local body of knowledge on sustainability. Several successful planning initiatives have not only made Swedes more responsive towards showing willingness to alter their lifestyles but have also encouraged them to participate in national and local sustainability planning.

Stockholm's congestion tax scheme is a case in point. Although several politicians, media representatives and civil society members were against the implementation of the congestion tax, positive changes in the environment as a result of the scheme's implementation led to a huge transformation in public and political attitudes towards innovative policy decisions. The scheme has enhanced Sweden's sustainability planning on several fronts. It has not only strengthened moral and social changes in people's perceptions towards greater public transportation use but has also made any future application of such sustainability-enhancing planning instruments by the government more readily acceptable by the larger society. Besides, the scheme's success has informed Sweden's policymakers that radical policy changes are successful in a conservative environment and that an increasing number of such mechanisms need to be planned and implemented for Sweden to operationalise long-term holistic sustainability.

8.5   SUSTAINABILITY PLANNING – A COMPARISON ACROSS KERALA AND SWEDEN

As mentioned previously, the primary aim of this thesis is to explore the effectiveness of current planning approaches in achieving holistic sustainability. As a subsequent step, the thesis examines how sustainability planning pathways may differ between developing and developed

regions. From the outset, it has been appreciated that an explicit comparison of sustainability planning approaches between Kerala and Sweden is unrealistic for reasons stated in earlier chapters. However, the discussion above has illustrated various features of sustainability planning, many of which are common to both regions while others are different as expected. This section draws together arguments from the above discussion to compare planning approaches employed by Kerala and Sweden to operationalise holistic sustainability. It is expected that the implications of the comparative study – discussed in the concluding chapter – will provide analytical answers to the research questions outlined in Chapter One.

The above discussion on the efficacy of current planning approaches in Kerala and Sweden highlights several issues that threaten long-term holistic sustainability in these regions. The biggest concern by far, is the evident lack of a wider perspective to sustainability planning. Both Kerala and Sweden have failed to encourage a pluralistic and multidisciplinary approach in planning. The existing cross-sectoral integration across the four primary dimensions of sustainability – socio-cultural, economic, environmental, and institutional – and also between different aspects within each dimension needs further strengthening. Although each region has developed strong theoretical policies that call for multidisciplinarity as an essential condition for operationalising holistic sustainability, the degree to which pluralism is practiced during various planning phases is quite unsatisfactory.

Although several sections of the civil society in both regions acknowledge that widening the scope of planning – by making the process more inclusive – may also positively address local context-specific challenges, institutional efforts in this direction have remained few and the success has essentially been sporadic in both Kerala and Sweden. Far-reaching yet thorough reforms in planning are therefore, required for Kerala and Sweden to successfully translate theoretical significance of holistic sustainability into long-lasting practical outcomes.

Table 8.1 uses the four substantive criteria developed in Chapter Four to compare the efficacy of existing planning approaches employed by Kerala and Sweden in operationalising sustainability. The comparison demonstrates the performance of each study region with respect to planning across the four primary dimensions of sustainability. A closer inspection of the table suggests that despite very different social, economic, cultural, environmental and political settings between the two regions, there are not many steep differences between

Kerala and Sweden with regard to substantive planning for the operationalisation of holistic sustainability.

Table 8.1: Comparative evaluation of the efficacy of sustainability planning approaches across Kerala and Sweden with respect to the plan contents

No.	Substantive Criteria	Kerala	Sweden
1	Social sustainability	●	√
2	Economic sustainability	▽	●
3	Environmental sustainability	□/ ▽	√
4	Institutional sustainability	●	●

Legend:

□	Missing
▽	Weak
●	Satisfactory
√	Good, but needs further reinforcement
◊	Excellent

The table suggests that planning to achieve social sustainability in Kerala is effective in that it has consistently produced positive outcomes in the areas of primary education, health and gender empowerment. However, long-term efficacy in social sustainability planning is limited by the institutional inability to address the "second generation" problems like ageing, morbidity and conservative social attitudes. Likewise, results argue that Sweden's planning efficacy for social sustainability is effective to the extent that liberal welfare benefits have long formed the core of the country's social sustainability model. However, increasing exclusion and social marginalisation of immigrant groups is gradually becoming a threat to Sweden's social stability and integrity. Similarly, the analysis suggests that economic sustainability planning from the perspective of long-term operationalisation is still weak in Kerala. In Sweden, although the economy has improved after the debacle of the early 1990s, future economic sustainability is challenged by high unemployment and low productivity in the public sector, thereby resulting in a slow economic growth rate when compared with other developed EU countries.

Furthermore, planning for environmental sustainability in Kerala has remained largely ineffective. It is only recently that the government has started to give due consideration to environmental quality and resource conservation and preservation in its state planning

directives. On the contrary, the situation in Sweden with regard to environmental planning is quite positive. The national political agenda has maintained environmental preservation and conservation and the maintenance of a high ecological quality as *the* priority themes for several years. Yet, debates regarding high vehicular CO_2 emissions and lack of innovation in the area of new renewable technologies suggest that Sweden's environmental planning efforts need further strengthening in order to address critical environmental challenges and operationalise long-term sustainability.

Finally, as far as planning for institutional sustainability is concerned, Kerala's efforts – state-wide and local – have been reasonably effective. Attempts like the TLC and the PPC show that the state government has been willing to translate theoretical sustainability ideals into practice. The decentralisation planning process, despite several bottlenecks, has helped empower local people and develop their capacities to independently manage and plan for long-term sustainability. Institutional governance in Sweden, on the other hand, is managed such that relatively limited power and authority is offered to regional tiers. While the municipalities are independent and often effective in planning for their own sustainability, weaker regional governance reduces the efficacy of the overall planning process by restricting the extent to which activities at regional and local level are efficiently coordinated and integrated. Further scope thus exists for both Kerala and Sweden to develop more effective institutional planning approaches for operationalising sustainability.

Following the above discussion on substantive planning for holistic sustainability in Kerala and Sweden, table 8.2 below presents a comparative analysis that evaluates the efficacy of the sustainability planning process in each region. The table suggests that more similarities than differences exist between planning approaches and mechanisms employed in Kerala and Sweden. Despite sharp differences between social, economic, environmental and institutional arrangements in these regions, both Kerala and Sweden face similar process challenges that impede the efficacy of planning approaches aimed towards operationalising sustainability. The behaviour and efficiency of various process criteria is similar across both regions with regard to their contribution in the process of planning for long-term sustainability. For instance, plan evaluation in both Kerala and Sweden is weak and therefore, inefficient. While Kerala has outdated evaluation mechanisms, Sweden has no formal policy that guides timely plan evaluation and feedback generation. Similarly, the degree of integration between and within

different sectors is unsatisfactory for both case study regions, thereby suggesting lack of coherence and cooperation across various agencies responsible for holistic sustainability.

Table 8.2: Comparative study of the efficacy of the sustainability planning process in Kerala and Sweden

No.	Process criteria	Kerala	Sweden
1	Reference to local context	●	▽
2	Consistency between different levels of governance	√	●
3	Integration across different sectors	▽	▽
4	Scope	▽	●
5	Consensus building	√	●
6	Formal planning agenda	●	●
7	Support from the government	▽/ √	▽/ √
8	Plan evaluation and adaptability	▽	▽
9	Transparency and accountability	▽	√
10	Stakeholder participation	√	√
11	Temporal span	●	●
12	Inclusion of local knowledge	●	▽/ ●
13	Pre-planning research	●	●
14	Value addition to existing knowledge	√	●

Legend:

▢	Missing
▽	Weak
●	Satisfactory
√	Good, but needs further reinforcement
◊	Excellent

Furthermore, weak plan evaluation in Kerala and Sweden has not only reduced the final efficacy of the planning process in operationalising sustainability but has also undermined the performance of several other planning criteria, for instance, support from the government, delays in formulating and implementing plans, inclusion of local knowledge and integration across different sectors. Table 8.2 above illustrates that the planning process in Kerala and Sweden, despite established social, political and economic differences, show similar behavioural patterns for all the above mentioned criteria. The consequences of inefficient

evaluation mechanisms are therefore, far-reaching and similar across Kerala and Sweden. Besides, both regions exhibit similar temporal patterns between developing and implementing plans. The time consumed during various planning stages is affected by the presence of similar factors such as institutional tendency to prioritise personal, political and economic interests over holistic sustainability objectives, lack of dedication from local staff and politicians, and budgetary and other resource constraints.

Such similarities however, do not eclipse the larger differences that exist in the process of sustainability planning between Kerala and Sweden. The biggest difference perhaps, is with regard to the fundamental understanding of 'planning' and the resulting process between Kerala and Sweden. As discussed in Chapter Six, Kerala has a State Planning Board (KSPB) that guides the sustainability planning process across different departments and administrative levels. The KSPB is the primary body responsible for the formulation of planning agenda, development and application of evaluation mechanisms, and provision of support from the government. The presence of a central authority thus results in a uniform conduct of the basic planning process across the state.

On the contrary, Sweden perceives planning as being primary related to spatial development. As a consequence, although there are planning laws and policies, their direct relevance is limited to building new infrastructure, land management and other physical development. This, coupled with the fact that municipalities have complete autonomy in planning and managing their local sustainability, results in the lack of a uniform planning process in Sweden. The concept of sustainability planning is therefore, prone to different, and often contrasting, interpretations, thereby resulting in varied means of operationalisation within the same regional county. Sweden thus lacks a nationally (or regionally) coordinated approach to planning for long-term holistic sustainability.

There are several other differences between sustainability planning approaches in Kerala and Sweden. Sweden maintains greater multidisciplinarity and a more pluralistic approach to planning than Kerala. The latter's low focus on the environment and ecological quality has restricted the scope of planning, thereby impeding its efficiency in operationalising holistic sustainability. Similarly, the degree of openness and transparency in Sweden is far greater than in Kerala. The right to information in Sweden is constantly used by the media to explore institutional efficiency at various levels of governance. However, in Kerala, the right to

information – although existing – is rarely used to gauge the degree of transparency and accountability in political planning routines. At the same time, the degree to which Kerala's planning process has contributed to increased local knowledge on sustainability practices and general social awareness is much higher than in Sweden.

In summary, the two tables presented above suggest that despite significant differences between social, economic, environmental and institutional arrangements, on a macro level, both Kerala and Sweden struggle with similar issues with regard to planning and operationalising sustainability. As table 8.2 illustrates, out of 14 process criteria considered essential for operationalising long-term sustainability, Kerala and Sweden show similar patterns for eight of them. In light of these observations, it may be argued that intrinsic socio-cultural, economic, environmental and political differences between developing and developed regions play only a limited role in determining the efficacy of planning approaches in achieving holistic sustainability.

CONCLUSION

This chapter has brought together findings from the previous chapters to evaluate the effectiveness of current planning approaches adopted by Kerala and Sweden to operationalise long-term sustainability. The chapter began with an analysis of the socio-political understanding of sustainability that exists across the two case study regions. In doing so, references were made to various conceptualisations of sustainability discussed earlier in Chapter Two. Finally, the chapter produced a rational account of the efficacy of planning approaches employed by Kerala and Sweden to operationalise holistic sustainability. Planning efficacy in Kerala and Sweden was firstly evaluated against the substantive contents of the plans. The idea was to understand the degree to which planning in each region focused on the fundamental dimensions of sustainability: socio-cultural, economic, environmental and institutional. This was then followed by an evaluation of the planning process using the theoretical framework developed in Chapter Four. The final part of the chapter analytically compared the efficacy of planning approaches adopted by Kerala and Sweden in achieving holistic sustainability.

Furthermore, the chapter suggested that despite significant differences in political, social, economic and environmental settings in Kerala and Sweden, similar kinds of issues impeded

the overall planning efficacy of both regions in operationalising holistic sustainability. The tables presented in the previous section highlighted that sustainability planning in the two study areas was impacted – to a similar extent – by issues such as growing corruption, absence of a formal planning agenda, lack of government support, and weak and ineffective evaluation tools. While this not only suggested that the contemporary planning approaches in both Kerala and Sweden were ineffective, it also strengthened the argument that factors that destabilise the process of planning for holistic sustainability are largely unaffected by the division of the world into the developing South and the developed North.

As a concluding observation, the discussion above has highlighted several long-and short-term concerns that contradict the popular image of Kerala and Sweden as 'model' examples that have effectively operationalised holistic sustainability. Based on the evaluation presented above, this thesis argues that the efficacy of contemporary planning approaches adopted by Kerala and Sweden to operationalise long-term sustainability is at best, unsatisfactory. The evaluation also shows that sustainability planning – irrespective of the conditions specific to developing or developed regions – calls for strengthening not only the substance of a plan but also the process of formulating and implementing it. On a macro level therefore, planning for long-term holistic sustainability necessitates the adoption of similar approaches across the North-South divide. The implications of these findings for further theoretical knowledge building and policymaking are discussed in the next chapter.

CHAPTER NINE
CONCLUSION AND RECOMMENDATIONS

INTRODUCTION

Sustainability is a complex phenomenon mainly because its understanding varies across diverse disciplines and socio-economic and institutional backgrounds. As a direct consequence of the underlying complexity, holistic operationalisation of sustainability has remained weak and ineffective. This study has argued that planning plays a key role not only in establishing what the concept of sustainability theoretically entails but also in developing a framework that contributes to its successful operationalisation across different settings temporally and spatially.

This thesis has examined the effectiveness of contemporary plans in achieving sustainability. In doing so, particular focus has been placed on the process that has guided planning in two distinct regions – Kerala and Sweden – to achieve the desired transition to holistic sustainability. This final chapter draws together discussions made thus far by firstly, summarising the primary findings of this research in section 9.1 to build theory that will provide answers to the research questions outlined in Chapter One. Subsequently, section 9.2 examines the study's theoretical and practical significance by suggesting important policy implications of the findings. The final part of the chapter recommends areas for further research that may both widen the theoretical scope of the thesis and also address some of the limitations faced by the current study.

9.1 SUMMARY OF MAJOR FINDINGS

The overarching aim of this thesis has been to address the 'sustainability problematique' that has invited a multitude of debates and discussions in various regions of the world. In order to deliver a comprehensive understanding of the main problem, two main research questions were established. The first research question focused on *evaluating the efficacy of contemporary approaches to planning for sustainability*. Four substantive and fourteen process criteria were established as part of the study's main theoretical framework. These criteria were subsequently applied to the two case studies conducted in Kerala and Sweden.

This thesis has argued that existing planning approaches adopted to achieve sustainability in the two study areas have much scope for further improvement. On a macro level, planning pathways for sustainability are weak in both regions. There are several issues that impact the efficacy of sustainability planning similarly across Kerala and Sweden. With regard to the process of planning for sustainability, both regions exhibit weak mechanisms of governance. The underlying presence of bureaucracy, politically-biased planning agendas and corruption suggest institutional shortcomings in the sustainability planning process employed in Kerala and Sweden. These shortcomings have, in turn, led to a narrow scope of the understanding of sustainability existing in the two regions. This has further restricted the extent to which cross-sectoral integration and multidisciplinarity is exercised in practice.

Furthermore, a clear lack of formal plan appraisal, reporting and feedback mechanisms in both regions compromises the efficacy of contemporary plans in achieving sustainability. The absence of a comprehensive evaluation process not only impedes the efficiency of current and future plans in operationalising sustainability but also significantly impacts the degree of accountability and transparency during different stages of the planning process. These issues highlight weak institutional planning reforms, which pose a serious obstacle to the process of long-term sustainability operationalisation.

There are two main implications of these findings. Firstly, there is insufficient attention currently being given to developing plans that foster holistic sustainability. The planning process currently applied to operationalise sustainability does not encourage all-inclusiveness and multidisciplinarity. On the contrary, the interaction between and within various facets and dimensions of sustainability is either very little or non-existing. The second implication follows from the previous one; it suggests that lack of integration, coordination and evaluation is largely due to weak – and often, half-hearted – commitments from government institutions. Personal and politically-inclined interests of policymakers and politicians alike have limited the efficacy of contemporary planning pathways in achieving long-term sustainability.

The second research question asked *how do planning efforts concerned with achieving sustainability in different regions – developed and developing countries – differ, to ensure that the diverse institutional, social, economic, cultural and environmental particularities of those regions are taken into account?* This study provides a mixed response to the question. On the

one hand, different socio-economic, institutional and environmental settings have resulted in widely varied interpretations of the concept of sustainability across Kerala and Sweden. The latter have resulted in a set of diverse priorities with regard to developing the substance of their sustainability plans. On the other hand, the process of planning for sustainability operationalisation in both Kerala and Sweden highlights strong similarities, including *inter alia*, high emphasis on stakeholder participation, consensus building, and consistency between different governance levels.

Having said this, the study has demonstrated that the long-term objective of operationalising holistic sustainability largely depends upon the efficacy of the planning process. To this extent, sustainability efforts across developing and developed regions entail addressing similar concerns and challenges. Therefore, while the substantive elements of a sustainability plan will continue to vary to different extents across regions, it is the planning process that needs strengthening – irrespective of the North-South divide – in order to expedite current and future chances of achieving holistic sustainability. In other words, an effective planning process will not only contribute to deep-rooted public policy changes that will enhance sustainability but will also contribute to bridging the gap between the diverse interpretations of sustainability across developing and developed regions. The latter will, in turn, encourage different regions to develop a near-uniform understanding of sustainability based upon similar objectives and fundamental principles.

9.2 THEORETICAL AND PRACTICAL SIGNIFICANCE

As mentioned in Chapter One, this thesis was expected to make several contributions – in theory and practice – across the disciplines of planning, sustainability and global imbalance. Some of the most significant theoretical and practical implications of this study are discussed below. It is important to acknowledge here that many of these implications are intricately related in that one could influence the extent to which the other would be either theoretically accepted or practically applied.

9.2.1   Theoretical implications

1. This study brings together two very different regions – Kerala and Sweden – and the efficacy of their planning approaches in operationalising sustainability. While the study findings contribute to examining the 'real' progress made by these regions in achieving holistic sustainability, the biggest strength however, is that it has considered a wide range of perspectives, priorities, and challenges across the North-South divide to add value to the existing body of knowledge on sustainability and its planning. The latter, in turn, has established the universality of sustainability as a concept. The combination of a developing and a developed region in a single sustainability study has been rare so far and is therefore, vital to policymaking at global and regional levels;

2. Besides, by considering planning and sustainability in an inevitable, mutually-reinforcing relationship, the study has presented a pragmatic and an unorthodox approach to make the transition to sustainability quickly and efficiently. The thesis has therefore, strengthened the role effective planning can play in both conceptualising and operationalising sustainability temporally and spatially. Besides, by emphasising the significance of the inter-linkages between planning and sustainability, the thesis addresses the sustainability problematique from a practical as well as a theoretical standpoint. The latter adds value to the existing literature in that it suggests 'how' to achieve sustainability concurrently across social, cultural, economic, environmental, ethical and institutional dimensions;

3. The substantive and process criteria established as the theoretical framework for this research provide a comprehensive account of various elements that are critical to the process of planning for sustainability operationalisation across different regions in the world. In doing so, the criteria have not only acknowledged the constantly evolving fundamental nature of sustainability but have also contributed to advancing the existing theory on the role of planning evaluation and assessment in operationalising long-term sustainability; and

4. Finally, the thesis confirms the significance of effective governance and actor participation in operationalising holistic sustainability. Planning in both study regions has underpinned the role of transparency, accountability and program evaluation in enhancing the efficacy of approaches applied to operationalise sustainability institutionally. Further, the thesis has reinforced the strength of public participation and socio-political empowerment in demanding and supporting innovative and unconventional public policy initiatives. The study has therefore, established that a strong and positive relationship between and within

political and civil society institutions has a long-term bearing on effective policymaking and planning for sustainability.

9.2.2   Practical implications

1.   This thesis has demonstrated that different regions in the world – developing or developed – face similar kinds of challenges in planning for and operationalising sustainability. This understanding will thus encourage the development of a comprehensive set of policymaking guidelines that are innovative, integrated and mutually-reinforcing in practice;

2.   By providing an in-depth analysis of the efficacy of Kerala's and Sweden's existing planning pathways in operationalising sustainability, the study findings have highlighted several of their short- and long-term achievements and challenges. The results will therefore, directly contribute to improved policymaking in these regions, thereby enhancing their positions as model cases for other regions in the world to learn from; and

3.   Finally, the emphasis on the planning 'process' throughout this study has addressed the issues of both 'what' sustainability entails and 'how' it may be operationalised across different regions. This will provide useful guidance for national and regional policymaking in the areas of sustainability, global development, and planning.

9.3 RECOMMENDATIONS FOR FURTHER RESEARCH

While the study has produced a comprehensive account of the efficacy of contemporary planning approaches to sustainability operationalisation in two distinct regions, Kerala and Sweden, there were some limitations that restricted its theoretical and practical scope. The discussion below suggests areas for future research based on these limitations and other issues that have appeared during the course of the study.

While this thesis has brought together two regions as diverse as Kerala and Sweden in a single study, it has been only partially possible to examine the extent to which changes in the planning process around the two regions may affect their long-term sustainability planning. In other words, time and resource constraints have rendered it difficult to assess the efficacy of Kerala's sustainability planning approaches within the larger context of India and similarly, Sweden's within the overarching sustainability objectives of the European Union. It would

therefore, be interesting to study how national and regional policymaking and planning directives affect sustainability planning in individual states and countries across the world.

Further, the study has suggested that Kerala and Sweden face several short- and long-term challenges in planning for holistic sustainability. In the process, it has highlighted a few, but important, cross-cutting issues that have significant bearing on the regions' long-term sustainability. Two such issues are: institutional ignorance towards the quality of the environment in Kerala (that has led to high morbidity, increasing health risks, and destruction of the state's unique biodiversity); and weak policies of social inclusion of immigrants in Sweden (that has adversely impacted the national social and economic wellbeing). These issues require an in-depth study that focuses on their interplay with other important dimensions of sustainability.

Besides, the author's discussions with several researchers in Kerala and Sweden suggested that within both developed and developing countries, huge disparities existed between rural and urban regions with regard to planning for and operationalising sustainability. This study has not been able to specifically look at the existing rural-urban planning dichotomy from a regional or a national perspective. This is another important area for future research that may add both theoretical and practical value to policymaking guidelines, thereby leading to a more equitable pattern of sustainability operationalisation across the world.

Finally, this thesis suggests that sustainability as a concept is not only theoretically highly complex but the process of operationalising its diverse measures is also practically difficult. The existing data collection systems are inappropriate in that they are unable to encourage a comprehensive response to a large variety of issues related to conceptualising and operationalising holistic sustainability. Further research to develop more pragmatic and integrative data collection procedures is therefore, essential to make a uniform transition to holistic sustainability.

CONCLUSION

This chapter has drawn together the major findings and implications of the thesis. It has highlighted that planning and sustainability are two diverse yet mutually-reinforcing concepts.

By developing a comprehensive list of substantive and process criteria to evaluate contemporary planning approaches, the thesis has argued that the process of operationalising sustainability does not only involve a thorough understanding of 'what' sustainability is as a concept but also 'how' it may be achieved in diverse socio-cultural, economic, institutional, and environmental settings. The study has therefore, confirmed the significance of the planning process in achieving long-term sustainability across both developing and developed regions. It has further argued that the nature of the process issues which challenge sustainability operationalisation does not vary significantly across the North-South divide. To this extent, the 'sustainability problematique' necessitates similar socio-political reforms and innovative governance mechanisms in both developing and developed regions.

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APPENDICES

Appendix 2(a)

North-South capacity building model for cooperation

Conventional partnerships have resulted in greater power to the developed region, where the latter sets and manages the agenda, thereby restricting the role played by the developing counterpart in the whole cooperative development process (Pawlowski 2008; Rios-Osorio, Lobato, and Del-Castillo 2005). An important reason for the failure of such conventional partnerships is the fact that the resources and expertise consumed in the process are primarily provided by the North, resulting in the latter dominating the process of South's development. As a result, a largely unidirectional obligatory help flowing from the North to the South makes it difficult for the South to voice its perspective at any stage throughout the joint program (Velho, de Souza Paula and Vilar 2004).

The above argument thus questions the very nature of 'North-South partnerships'. Ideally, a partnership is considered a relationship between two or more parties or groups where each makes an investment in a predefined manner (equal or unequal, depending upon the circumstances), and the results reaped from these investments are shared in proportion to the initial contributions.[1] Considering the fact that in North-South cooperative efforts, the primary investments are made by the North with negligible immediate returns[2], the concept of 'partnerships' may be meaningfully replaced by the idea of *"capacity building in the South with cooperation from the North".* The new capacity building process requires funds, resources and expertise from the North while the South is responsible for deciding upon the use and application of these resources through a local needs-based conceptualisation of research design and implementation procedure. In the process, the developed region contributes to building long-term capacity in the South to achieve sustainability with complete autonomy and

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[1] According to the Oxford advanced dictionary (2003, p.923), partnership is defined as: a profit (or loss) sharing arrangement between two parties.

[2] Long-term benefits for the North from developing Southern capacities include global sustainability which, as discussed previously, is impossible to achieve if the South continues to suffer from inequitable distribution of resources, poverty, and lack of economic and technological development. Therefore, encouraging sustainability in the South eventually advances the chances of long-term domestic (and subsequently, global) sustainability in the North.

freedom of choice. Subsequently, the North withdraws its support by leaving the developing counterpart in an independent, self-sufficient and a self-sustaining working model. Therefore, while investment resources and capacity building cooperation is expected from the North, efficiency in the use and management of these resources independently is acknowledged as a primary responsibility of the receiving (South) country.

The Dutch-Bolivia program of cooperation, discussed in Chapter Two, has largely followed this capacity building approach.

Appendix 4 (a)

Published journal article

Sharma, V. 2007, 'Planning and sustainability: exploring the relationship', The International Journal of Environmental, Cultural, Economic and Social Sustainability, 3(3): 173-181.

NOTE:
This publication is included on pages 299-305 in the print copy
of the thesis held in the University of Adelaide Library.

299-305

Appendix 5(a)

Interview guide map (Substantive criteria)

Social and cultural sustainability

Degree of:
1. gender equality – in terms of availability of education, health services and employment;
2. equality with respect to access to social services for people from varied socio-economic, cultural, and religious backgrounds;
3. social cohesion, community feelings, neighbourhood get-together etc.;
4. efforts made to preserve practices that have historical/cultural significance;
5. social tolerance in accepting other religions and cultures; and
6. presence of any social evils (e.g. excessive alcohol consumption, racism, communal and domestic violence).

Ecological sustainability

1. Degree to which people across different socio-economic backgrounds are aware of renewable and non-renewable sources of energy;
2. How well is the concept of recycling and reduction of wasteful consumption embedded in the day to day lives of people;
3. Extent to which the society prefers renewable over non-renewable sources of energy;
4. Extent of efforts made by the civil society organisations and the government to encourage increased use of renewable and recycled materials;
5. Pollution trend (ecological quality – of air, land and water);
6. Efforts made by the government to keep a check on increase in pollution levels;
7. Degree to which the wider community is aware of the importance of biodiversity preservation (especially fisheries and marine life);
8. Any significant decline/ improvement in fish or marine count in the last decade; and
9. Any local actions undertaken to protest against merciless killing/ poaching of animals/ fishing/ industrialisation at the cost of reduced biodiversity or increased deforestation.

Economic sustainability

1. Pattern of employment across all social groups (males and females);
2. Possible reasons for unemployment;
3. Average number of vehicles owned per family;
4. Migration trends and remittances received (if any);
5. Reasons for migrating inter-state (or abroad);
6. Investment in research and innovation and the application of science and technology to expand economic opportunities;
7. Changes in lifestyles and consumption patterns over the last five years;
8. Degree to which indigenous or traditional knowledge is used to generate income;
9. Reasons for slow economic growth in Kerala/ Possible threats to Sweden's long-term economic sustainability;
10. Trends of imports and exports (inter-state and abroad);
11. Degree to which poverty is prevalent socially, extent of poverty; and
12. Average age for men and women to start working.

Political sustainability

1. Level of satisfaction with the new government; degree of accountability of policymakers;
2. How useful and effective are the existing government policies in terms of achieving sustainability across social, economic and environmental issues;
3. Provision of help and support from the government during natural disasters/wars/ calamities etc.;
4. Support from the government for new business establishments;
5. How practical and action-orientated is the government? Are promises fulfilled generally or is it mainly rhetoric?
6. Efforts from the government for spread of sustainability awareness;
7. Degree to which the police force is effective in providing social security;
8. Incidents of corruption, fraud and other institutional malpractices;
9. Role of media in enabling strong institutions;
10. How active are the civil society organisations in your region, what kinds of issues are generally discussed at their forums?
11. If there is a social issue to be resolved in your neighbourhood or locality, who would you contact first? Local civil society body, community council, civil servants or would you try to bring together other community members to address the issue jointly?

Appendix 5(b)

Interview guide map (Process criteria)

- Contextual reference to the socio-political arrangements/ adherence to ethics

    1. Do plan-making and plan-implementation stages give due consideration to human and ecological ethical concerns?
    2. Does any planning directive hinder the socio-political interest of the community at large?
    3. Are local sustainability plans ethical on religious grounds?

- Consistency between local, regional and national plans

    1. What is the degree of consistency between local, regional and national plans?
    2. What procedures are followed to ensure that State plans are in tune with the requirements of the national plan? and,
    3. That local plans are according to the requirements of the State plan?
    4. Is there any directive by way of which the required level of consistency between the three plans can be gauged by the planning authority?

- Sectoral integration

    1. Degree of integration between social, environmental, political, and economic policies to promote sustainability?
    2. Who controls this integration and, how?
    3. Degree of integration between various aspects within the social, environmental, political and economic realms (e.g. how are education and health as different sectors integrated to ensure overall social development)?

- Scope of the plan

    1. Is the scope of the plan pluralistic?
    2. Does it favour multidisciplinarity? If yes, to what extent. If no, why not?

- Consensus building

    1. What is the level of consensus building for any sustainability-related planning activity?
    2. What steps are undertaken to establish consensus between different parties?
    3. Is it easily achieved or does it require several brainstorming sessions (In other words, is consensus building a challenging task generally)?
    4. Have there been any instances when policymakers have given up the whole activity to avoid any emerging conflicts?
    5. Practically speaking, is consensus building rare or frequent?
    6. Does the authority give special consideration to consensus building?

- Agenda for plan implementation

    1. Is there always a well drafted agenda in place regarding how to devise and implement the plan?
    2. Who sets it?

3. What are the resources consumed to do so (In terms of time, money and human resources)?

- Support from the government

    1. To develop and implement the plan, what kind of support is offered by the government? Is it according to prescribed requirements?
    2. Is it self-willed and independent of the pressure from any higher authority (e.g. is the government at the state level least concerned about what happens at the village or a district level or is the state authority the main steering body for any progress achieved at the lower level)?
    3. Are the people of the concerned region happy with the government's support generally?

- Plan's adaptability

    1. Is there any system of evaluating results obtained after plan's implementation?
    2. Who controls it?
    3. How long after the implementation is the plan evaluated?
    4. Is public consulted during evaluation or is it only the government planning authority which undertakes the evaluation process?
    5. Is there any system of generating feedback from evaluation (both positive and negative)?
    6. Is this feedback used to improve the existing plan wherever possible?
    7. Is the feedback incorporated during the development of other plans?
    8. On a scale of 1 to 10, what is the degree of plan's general adaptability to changes?

- Accountability and transparency

    1. How transparent is the sustainability planning process?
    2. Before implementing any decision, is the public consulted?
    3. Does the public know who is to be informed in case there is an issue with the plan's proposed working?
    4. In other words, is it clearly established who is the main authority accountable for plan's success or failure?

- Public participation, involvement of relevant actors

    1. To what extent does the public participate during planning?
    2. Who participates at all?
    3. Who, or which group of actors participates the most and which the least and, why?
    4. What steps are taken by the government and planning authorities to generate or encourage public participation? (e.g. Are there any awareness campaigns run by these government bodies or are any public meetings organised to increase public awareness regarding sustainability planning?)
    5. Who are the main people constituting the decision making body – only government employees or are there any public representatives? In what ratio?

- Temporal span

    1. How long does it take to arrive at a decision regarding a particular aspect of plan making?
    2. For how long do the decisions remain pending for implementation?
    3. If substantial amount of time is taken to implement these decisions, why is it so?
    4. Do you think this delay might affect the overall efficacy of the plan because conditions might have changed in the region by the time the plan is finally implemented in the field?

- Inclusion of local knowledge

    1. To what extent is local knowledge encouraged to be used during making and implementing the plan (e.g. there may be some crucial aspects about marine farming which only farmers in that region or the fishing communities might be able to help with)?
    2. In such circumstances, are the locals involved in plan making?
    3. Are their inputs considered?
    4. Any particular reason for avoiding the inclusion of local knowledge during plan design and implementation?

- Research undertaken/ feasibility and practicality

    1. To what extent is field research undertaken before developing the actual plan?
    2. Are professionals sent out in the field to grasp what is required, by whom and why?
    3. How much time and resources are spent in this process?
    4. Do you personally feel that the results from such a pre-plan study are worth the resources spent?
    5. How is the research undertaken – by plain observations or interviewing people for their suggestions?
    6. Since when or for how long has this research activity been happening as a practice before actually developing planning strategies?
    7. On a scale of 1 to 10, what is the element of practicality that is added to the plan design and implementation as a result of this research?

- Value addition to the existing body of knowledge

    1. Do you think the way planning for sustainability is undertaken from the very idea of conceptualising a plan, any value is added to the region's existing understanding and importance of sustainability?
    2. Give one example that strikes to your mind at this moment which suggests that a particular planning activity has fostered sustainability in a way that would not have been possible in the absence of a suitable plan.

Appendix 7(a)
Sweden's definition of green cars

According to Sweden's Ministry of the Environment, a car that meets any of the following conditions is considered a green or environmental friendly car:

1. Conventional cars: Petrol and diesel cars with carbon dioxide emissions that do not exceed 120 grams/km.
2. Alternative fuel cars: Cars that can run on fuels other than petrol or diesel and with fuel consumption that does not exceed 0.92 litre petrol/10 km, 0.84 litre diesel/10 km or 0.97 cubic metre gas/10 km.
3. Electric cars: A passenger car meeting environmental class Mk EL standards and with electric energy consumption that does not exceed 3.7 kilowatt hours/10 km.

Source: (Swedish Environmental Protection Agency 2008)

Appendix 7(b)
Working of the Hammarby Model (Figure 7.4)

The Hammarby Sjöstad project uses environmental friendly technology to treat its solid and liquid wastes and meet local energy demands. In doing so, the model remains self-sufficient while maintaining a closed loop exchange of services and resources between Hammarby Sjöstad and the external environment.

Different kinds of solid wastes are treated using a variety of measures. The organic waste collected from the site is converted into bio fuel which is then fed into a combined heating and power plant. Along with the combustible waste that is directly sent to the power plant from the project site, the plant provides heat and electricity to various residential and commercial services in Hammarby Sjöstad. The remainder of recyclable materials including paper, hardboard boxes, metal cans, and glass are sent to recycling stations which then treat these materials to produce new packaging. The hazardous and electrical wastes are collected and treated separately to ensure their safe disposal.

With regard to water usage, different kinds of water discharges are treated in an environmental friendly manner. The waste water is fed into *Sjöstadens and Henriksdals* waste water treatment plant. The final product after treatment is put to varied uses. The biogas produced from the waste water treatment plant is used as a fuel to operate cars and public transport buses. Purified waste water is sent to the thermal power station, which then meets a large proportion of local energy demands for heating and cooling purposes. The remainder of waste water from the thermal station is again purified prior to direct discharge into the sea. Storm water (from buildings and streets) is filtered and treated before being discharged into Lake Hammarby Sjö, which finally opens into the Baltic Sea.

To meet remaining local energy demands, environmentally friendly electricity is produced using sun, wind and other renewable resources.