

**VALUES IN AGRICULTURAL RESEARCH  
AND DEVELOPMENT MANAGEMENT FOR  
PRO-POOR IMPACT: THE CASE OF  
PETRRA PROJECT, BANGLADESH**

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**Values in Agricultural Research and Development  
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Ahmad Salahuddin



## **Abstract**

### **Values in Agricultural Research and Development Management for Pro-poor Impact: The Case of PETRRA Project, Bangladesh**

In spite of many years of quality agricultural research and overall agricultural and economic growth, there has been slow progress in the reduction of rural poverty in many developing countries. There is agreement that technology alone is unable to solve the problem of poverty. There are many other issues that need to be considered - some are agroecological and some are social-economic-cultural-institutional-infrastructure. There has recently been fruitful discussion on poverty-focused agricultural research within national and international agricultural research systems. But the actual application of these new ideas and discussions in research has been limited. Although all agree that there is a need to discover ways to achieve greater impact on poverty from research that has been conducted, there is as yet no clear evidence of achievement based on practical experiences. There is little or no real discussion in the literature that demonstrates whether the approach to research affects poverty status.

This thesis revisits different interventions and identifies gaps in the literature in understanding approaches to agricultural research. It examines whether working directly with poor men and women farmers in partnership with organisations can contribute to poverty reduction. It also explores a range of values, asking whether they can make pro-poor research and development more effective and, more importantly, whether a value-based research management approach can significantly contribute to poverty elimination. The experience of a recently completed IRRI-managed and DFID-funded project, the Poverty Elimination Through Rice Research Assistance (PETRRA) project, which claimed to have used a value-based approach to agricultural research management, was used as a case study to learn about the effectiveness of such an approach. The project was implemented in Bangladesh for 5 years with more than 50 national and international partners and in close collaboration with the Bangladesh Rice Research Institute (BRRI).

A qualitative research methodology was used to explore the effectiveness of the value-based research management approach utilised by the project. The values included working with the poor men and women farmers on their demands and priorities, conducting research that ensures participation of men and women farmers, working with partners who work with the poor farmers, and developing networks and linkages to sustain technologies and innovations and communicate results to a large number of

poor farmers for impact. Under PETRRA, a competitive research commissioning approach was used in the selection of partners. The research method involved interviewing the research partners that led research and development subprojects 4 years on from the completion of the project. This group represents the intermediary group that made the link between two large groups: i) the national-international agricultural research and development system and ii) the users, the poor men and women farmers or the farmer groups. During the interviews, the partners of PETRRA evaluated their experience with the value-based approach that was adopted by PETRRA and analysed its effectiveness.

The research revealed that the experience of engaging with values and the value-based management approach was mostly positive. The scientists from national and international research centres and development professionals from government, non-government, and private organizations were successful in linking agricultural research, values, and the need for a management approach to achieve the objective of poverty reduction. They were able to see the strengths of the values when they were used in combination to complement each other. They observed the superior effectiveness in poverty reduction of research outputs in the form of technologies and other innovations that were developed through a value-based approach. They also identified the need for and effectiveness of the contribution of continuous capacity-building efforts on the part of the project management unit in support of a value-based approach. There was clear evidence of capacity-building impact on individual partners and their respective organizations as many of these individuals and organizations sustained the learning after the project ended. Many technologies and innovations, networks, and tools that were developed in the respective subprojects were successfully used by poor farmers, some were replicated by other organizations, and some were mainstreamed and internalised within the organizations that developed them. Many partner organizations involved were substantially changed. Those who had no previous agricultural programme became champions in agriculture, and those who had never worked with resource-poor men-women farmers became leader organizations in conducting such programmes. Many individuals and organizations became advocates and became known nationally. All such evidence indicates the effectiveness of the value-based agricultural research management approach.

The thesis concludes that pro-poor agricultural research and development is possible, even within a traditional setting. The challenge is to create a management approach around research and development activities that is value-based and that can facilitate a learning environment where all actors can contribute, play their due role, and get credit for it.

## Acknowledgement

The opportunity to reflect on PETRRA has been a privilege. PETRRA as a project was successful in bringing together a donor, DFID; an international agricultural research centre, IRRI; a national agricultural research institute, BIRRI; and a large number of partners - international centres, national government, nongovernment, private organizations, and universities - to achieve a common goal, that of eliminating poverty in Bangladesh through agricultural research and development initiatives. It was a rarer opportunity for me to be part of this historical contribution, both as a team member and as a researcher to capture the learning from this valuable experience.

Many people thought that PETRRA was a very important experience. For many, it was a very valuable lesson and an inspiration, especially to those who wanted to contribute to a positive improvement in the livelihoods of resource-poor farmers. Recognising this, IRRI decided to invest further on the project by capturing the lessons through this research. IRRI management must be congratulated for its generous funding. Dr. Noel P. Magor, head of the IRRI Training Center had the most contribution to make this research funding possible. I am deeply grateful to him.

The cooperation of former PETRRA partners who gave me quality time and granted me very illuminating in-depth interviews, initially excited me and inspired me to carryout this research. They each deserve my heartfelt thanks. All of their names are listed in Appendix 1 and are mentioned throughout the thesis; readers will also find them present in each page.

Supervision of the thesis was not easy because of my physical isolation from my supervisors most of the time. After an initial 1-year stay at Adelaide University, I had to live most of my time in Bangladesh; yet regular consultations and meetings had to be held. Dr. Peter Mayer, my principal supervisor at Adelaide University, deserves special thanks; he rarely missed a weekly Skype meeting. I appreciated the patience, wisdom, guidance, and encouragement that he provided throughout this trying period. Dr. Noel P. Magor, my supervisor at IRRI, has always been in contact. He never stopped encouraging me. He arranged for some funds to enable me to travel to IRRI several times during the period, allowing me to work closely with him and giving me some quiet time at IRRI so I could concentrate on my writing. He also supported my participation in four international conferences to present papers based on my research findings. Dr. Juanita Elias, my co-supervisor at Adelaide University, has been very helpful during the initial concept development period. All three have been special and deserve special thanks.

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## List of Abbreviations

AAS	Agricultural Advisory Society
ABC	Agri-Business Corporation
ACIAR	Australian Centre for International Agricultural Research
ActionAid	An international NGO
ADB	Asian Development Bank
AID-Comilla	Association for Integrated Development, Comilla
AIS	Agricultural Information Services
APEX	voluntary organization for community development
AR&D	Agricultural Research and Development
AR4D	Agricultural Research for Development
ARI	Agricultural Research Institute
ARMP	Agricultural Research Management Project
ASIRP	Agricultural Services Innovations and Reform Project
ASSP	Agricultural Support Service Project
AWD	Alternative Wet and Dry
BADC	Bangladesh Agricultural Development Corporation
BARC	Bangladesh Agricultural Research Council
BARCIK	Bangladesh Resource Center for Indigenous Knowledge
BARD	Bangladesh Academy for Rural Development
BARI	Bangladesh Agricultural Research Institute
BAU	Bangladesh Agricultural University
BIDS	Bangladesh Institute of Development Studies
BINA	Bangladesh Institute of Nuclear Agriculture
BMZ	a German donor agency
BRR1	Bangladesh Rice Research Institute
BS	Breeder Seed
BSMRAU	Bangladesh Shaikh Mujibur Rahman Agricultural University
BTV	Bangladesh Television
BWDB	Bangladesh Water Development Board
CABI	CAB International
CARE	Cooperative American Remittances Everywhere
CAREB	CARE Bangladesh
CAZR	Centre for Arid Zone Research
CBFM	Community Based Fisheries Management
CBO	Community-Based Organization
CDP	Crop Diversification Project
CGIAR	Consultative Group on International Agricultural Research
CGS	Competitive Grants System
CIAT	Centro for Internacional de Agricultura Tropical
CIFOR	Center for International Forestry Research
CIMMYT	International Center for Maize and Wheat Improvement
CIP	Centro Internacional de la Papa
CN	Concept Note
CONCERN	an international NGO

CPD	Centre for Policy Dialogue
CPWF	Challenge Program on Water and Food
CSIRO	Commonwealth Scientific and Industrial Research Organization
CSISA	Cereal Systems Initiative in South Asia
CSO	Civil Society Organization
CURE	Consortium for Unfavorable Rice Environments
DAE	Department of Agricultural Extension
DANIDA	Danish International Development Agency
DDG	Deputy Director General
DFID	Department for International Development (UK)
DoF	Department of Fisheries
DoL	Department of Livestock
East-west Seed	a private seed company
EC	European Commission
EPRC	Environment and Population Research Centre
ESCOR	Economic and Social Research Programme
FAO	Food and Agriculture Organization
FARMSEED	Farmer to Farmer Seed production
FFL	Farmer First and Last
FFS	Farmer Field School
FIVDB	Friends in Village Development Bangladesh
FoSHoL	Food Security for Sustainable Household Livelihoods
FSR	Farming Systems Research
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GKF	Grameen Krishi Foundation
GMO	Genetically Modified Organism
GO	Government Organization
GoB	Government of Bangladesh
Grid International	an international consulting firm in the area of project management
GSI	Good Seed Initiative
HARP	Hill Agricultural Research Project
HEED	Health Education and Economic Development
HYV	High Yielding Variety
IAR	International Agricultural Research
IARC	International Agricultural Research Centre
ICARDA	International Center for Agricultural Research in the Dry Areas
ICM	Integrated Crop Management
ICRAF	World Agroforestry Center
ICRISAT	International Crop Research Institute for the Semi-Arid Tropics
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFPRI	International Food Policy Research Institute
IITA	International Institute of Tropical Agriculture
ILAC	Institutional Learning and Change
ILCA	International Livestock Center for Africa
ILRAD	International Laboratory for Research on Animal Diseases (merged with ILRI)



ILRI	International Livestock Research Institute
INGO	International Non-Governmental Organization
INIBAP	International Plant Genetic Resources Institute (now known as Bioversity International )
IPGRI	International Plant Genetic Resources Institute
IPM	Integrated Pest Management
IRRI	International Rice Research Institute
ISNAR	International Service for National Agricultural Research
IWMI	International Water Management Institute
JBIC	Japan Bank of International Cooperation
JICA	Japan International Cooperation Agency
KAP	Knowledge, Attitude and Practice
Katalyst	A Swiss supported project in Bangladesh
Kg	kilo gram
LCC	Leaf Color Chart
LCVIP	Learner Centered Video Development Project
LG	Local Government
LITE	Livelihoods Improvement Through Ecology
MDG	Millennium Development Goal
MNC	Multi-National Company
MoA	Ministry of Agriculture
MoU	Memorandum of Understanding
MS	Master of Science
Mukti	voluntary organization for community development
NAEP	New Agricultural Extension Policy
Namdhari Malik Seed	a private seed company
NARES	National Agricultural Research & Extension System
NARI	National Agricultural Research Institute
NARS	National Agricultural Research System
NATP	National Agriculture Technology Project
NGO	Non-Governmental Organization
NRI	Natural Resources Institute (UK)
NRM	Natural Resources Management
OPR	Output to Purpose Review
OXFAM	an international NGO
PETARRA	Poverty Elimination Through Rice Research Assistance
PhD	Doctor of Philosophy
PKSF	Palli Kormo Shahayak Foundation (village employment support foundation)
PLA	Participatory Learning and Action
PMU	Project Management Unit
POSD	People's Organization for Sustainable Development
PPS	PRA Promoters' Society
PRA	Participatory Rural Appraisal
Practical Action	an international NGO
PROSHIKA	one of the largest NGOs in Bangladesh
PSC	Project Steering Committee
PVS	Participatory Variety Selection

R&D	Research and Development
R4D	Research for Development
RDA	Rural Development Academy
RDRS	Rangpur and Dinajpur Rural Service
REFPI	Research and Extension in Farm Power Issues Project
RIU	Research into Use
RKB	Rice Knowledge Bank
RLEP	Rural Livelihoods Evaluation Partnership
RP	Research Proposal
RPF	Resource-Poor Farmers
RPRF	Resource-Poor Rice Farmers
R-to-D	Research to Development
SAFE	Sustainable Agriculture and Farming Enterprise
SCA	Seed Certification Agency
SDC	Swiss Development Cooperation
SFFP	Soil Fertility and Fertilizer Project
SHIP	Seed-Health Improvement sub-project (of PETRRA)
Shushilan	A regional NGO
SID	Seed Industries Development project
SP	Sub-Project
SRI	System of Rice Intensification
STRASA	Stress Tolerant Rice for poor farmers in Asia and Africa
STW	Shallow Tube Well
SUFER	Support for University Fisheries Education and Research
Syngenta	a multi-national private agri-business organization
TAC	Technical Advisory Committee
TEC	Technical Evaluation Committee
TLS	Truthfully Labelled Seed
ToR	Terms of Reference
ToT	Training of Trainers
UN	United Nations
UNDP	United Nations Development Programme
USG	Urea Super Granule
Uttaran	community development organization in Southwest Bangladesh
VBM	Value-Based Management
VBR	Values-Based Research
WAVE	community development organization
WB	World Bank
WTO	World Trade Organization

## Glossary of Special Terms

<i>Aman</i>	Main monsoon rice season in Bangladesh whereby crop is transplanted from July to August and harvested from November to December
<i>Bigha</i>	one bigha is equal to 0.33 acre
<i>Boro</i>	Dominant irrigated winter rice season, which is transplanted during the cold months of December to early February and harvested in April to early June
<i>BRRIDhan28</i>	a BRRI developed HYV rice variety grown in winter season
<i>BRRIDhan29</i>	a BRRI developed HYV rice variety grown in winter season
<i>BRRIdhan47</i>	a HYV rice variety developed by BRRI for winter season
Decimal	one hundredth of an acre or 40 square metres
Federation	an apex organization that constitutes of representatives from several groups
<i>Haor</i>	Flood plain in the northeast of Bangladesh
<i>Laksmi</i>	a Hindu goddess
<i>Lakh</i>	equals to 100,000
<i>Maund</i>	37.32 kg
<i>Monga</i>	a local Bangla term, is used to describe famine-like situation
Rice provisioning ability	RPA is the number of months a farming household can supply itself with rice from its own or operated land.
Rickshaw	Three-wheeled vehicle like bicycle with seats attached behind the driver
Taka	The currency in Bangladesh. Tk 69 equals US\$ 1

## Administrative Units in Bangladesh:

Bangladesh comprises six divisions, namely Dhaka, Khulna, Barisal, Rajshahi, Chittagong and Sylhet.

1 division = 10-12 districts

1 district = 5-12 upazilas

1 upazila = 5-12 unions

1 union = 9 wards

1 ward = 1-3 villages