Working more closely with producers: a new guide

RIU

Validated RNRRS Output.

‘Participatory Livestock Research – A Guide’, is a new book designed to help researchers avoid the problem of new technologies not being adopted by small livestock keepers. Many technologies have not been adopted in the past for a range of reasons. Some, for example, did not take into account the limited resources of poor users, like lack of land, while others targeted problems that poor producers did not feel were urgent. The new book teaches its readers how to work more closely with end users, to ensure that the final result is something that is wanted and can be used. It details the methods and principles applied to participatory technology development, and backs this up with a range of case studies from Sub-Saharan Africa, Asia and Latin America.

Project Ref: **LPP27:**
Topic: **6. Promoting Success: Partnerships, Policy & Empowerment**
Lead Organisation: **Natural Resources Institute (NRI), UK**
Source: **Livestock Production Programme**

Document Contents:

Description

LPP27

A. Description of the research output(s)

Research into Use
NR International
Park House
Bradbourne Lane
Aylesford
Kent
ME20 6SN
UK

Geographical regions included:

China, Ghana, India, Indonesia, Kenya, Lao PDR, Mexico, Mozambique, Philippines, Sudan, Tanzania, Thailand, Vietnam,

Target Audiences for this content:

Livestock farmers,

1. Working title of output or cluster of outputs.
In addition, you are free to suggest a shorter more imaginative working title/acronym of 20 words or less.

Book entitled 'Participatory Livestock Research - A Guide'. It is referred to hereafter as 'The Book'.

Working title: ***Linking pro-poor livestock research and development – Participatory Livestock Research.***

2. Name of relevant RNRRS Programme(s) commissioning supporting research and also indicate other funding sources, if applicable.

Livestock Production Programme: (co-funded by Rockefeller Foundation).

3. Provide relevant R numbers (and/or programme development/dissemination reference numbers covering supporting research) along with the institutional partners (with individual contact persons (if appropriate)) involved in the project activities. As with the question above, this is primarily to allow for the legacy of the RNRRS to be acknowledged during the RIUP activities.

LPP Programme Development (ZC0208)

Relevant field work and publications that contributed to the writing of the book were undertaken as part of LPP project R6953.

Institutional partners: BAIF Development Research Foundation, an Indian NGO, was the main partner in R6953.

Case studies of participatory livestock research and scaling up were provided from institutions by individuals in the following continents and countries:-

Africa

Kenya
KARI – Embu Livestock production research (J. Kang'ara) KARI Muguga, Forage research (D.M. Mwangi,)
ITDG – EthnoVeterinary Programme (J Wanyama)
Ministry of Livestock and Fisheries - Livestock Extension and Dairy Development (J. Biwott, M Wambugu, L Chege)

Mozambique
Rural Poultry Centre – Newcastle Disease Control Project – (R. Alders, M. Young, - based in Tanzania)
Veterinary Faculty Maputo – (F. dos Anjos)
National Veterinary Research Institute – (R. Fringe, Q. Lobo, B. Mata)

South Africa
University of Pretoria – Institute of Women and Gender – (B. Bagnol) – work in Mozambique

Sudan
ITDG – Food Security Programme, (M. S. Suliman)

Asia

India
BAIF Development Foundation, (A.L. Joshi, S.S. Lakhawat, M. Sharma, M. H. Vadher)

Central America

Mexico
Universidad Automoma de Yucatan, (B. Keane, J.M. Pliego) -
University of Chiapas – Instituto de Estudios Indigenas, (R. Perezgrovas)

Advanced and International Research Institutes

ILRI (Kenya)– Market oriented smallholder Dairy Team – (D. Romney, R. Kaitho, S. Staal, W. Thorpe D. Njubi, A. Omore, P Wanjohi)

CIAT – Forages for Smallholders Project ,(P. Kerridge Ralph Roothaert) - work also in China, Indonesia, Lao PDR, the Philippines, Thailand and Vietnam

Interafrican Bureau for Animal Resources (Kenya) – (A. Catley)

Natural Resources Institute, (C. Conroy) – work in India

Imperial College, Wye – (S. Anderson, S, Clarke) – work in Mexico

4. Describe the RNRRS output or cluster of outputs being proposed and when was it produced? ***(max. 400 words)****. This requires a clear and concise description of the output(s) and the problem the output(s) aimed to address. Please incorporate and highlight (in bold) key words that would/could be used to select your output when held in a database.*

The Book, published in early 2005, was written to provide guidance on how more effectively to link research with pro-poor development in the small-scale livestock sector of less developed countries.

The problem addressed is that much of the livestock research in less developed countries has failed to benefit poor people. Livestock-keepers have not adopted the technologies developed by researchers for various reasons including:

- technologies were not adoptable by poor households, given their resource constraints (e.g. insufficient land to plant fodder crops, limited labour, insufficient capital to purchase commercial veterinary products);

- the problem or constraint that the technology or products addressed was not a priority need of poor people, whose objectives may differ from those of researchers (e.g. high milk-yielding breeds of cattle in situations where the main use of cattle is for draft power);

- the technology worked well under the research station conditions where it was developed, but not in the more challenging environments of poorer livestock keepers;

- the technology, although technically effective, was not cost-effective.

- technology design and extension approaches did not take account of gender roles and complex of ownership and usufructory rights relating to livestock

The Book describes and gives hands-on guidance on participatory research approaches which can be used to ensure that technologies developed do not have the above-mentioned characteristics, and are both relevant and appropriate to poor farmers' circumstances. Guidance on participatory needs assessment and problem identification increase the likelihood that research outputs will be **demand-led** and relevant to the intended users, including pro-poor targeting. Detail is given on methods and principles for **participatory technology development**, in which prospective users are involved in decision-making about technologies to be tested, experimental design, monitoring and evaluation. Participatory livestock research greatly increases the chances that the technology developed is relevant to local circumstances, and can be further adapted to cover a range of circumstances and farmers' resource constraints. This is because the suitability (or otherwise), acceptability and relevance of outputs is demonstrated under on-farm conditions. The Book also describes how to maximise the impact of participatory livestock research and reach larger numbers of potential users. 10 **case studies of participatory livestock research** from Sub-Saharan Africa, Asia and Latin America provide examples of getting research into use within communities covering a range of livestock species and constraints.

5. What is the type of output(s) being described here?
Please tick one or more of the following options.

Product	***Technology***	***Service***	***Process or Methodology***	***Policy***	***Other Please specify***
	X		*X*	*X (**)*	

*** A shift in livestock research policy and practice is advocated with evidence to support this – providing opportunities for wider advocacy through RIU programme.*

6. What is the main commodity (ies) upon which the output(s) focussed? Could this output be applied to other commodities, if so, please comment

Any kind of avian or mammalian domestic livestock (including chickens, pigs, goats, sheep, cattle and donkeys) providing a range of products (meat, milk, eggs, wool, manure) and services (farm power, transport, capital investment, social and ceremonial uses).

Most of the general approaches and many of the methods also apply to participatory crop production and post-

harvest research, although some issues are specific to livestock research.

7. What production system(s) does/could the output(s) focus upon?
Please tick one or more of the following options. Leave blank if not applicable

Semi-Arid	***High potential***	***Hillsides***	***Forest-Agriculture***	***Peri-urban***	***Land water***	***Tropical moist forest***	***Cross-cutting***
X	*X*	*X*	*X*	*X*	*X*	*X*	*X*

NB: Livestock play a particularly key role in semi-arid and hillside systems which are less favoured for crops; and also for landless households in high potential and peri-urban systems where the poor can manage to keep livestock. Under agricultural intensification processes there is scope for livestock crop interactions (positive and negative).

8. What farming system(s) does the output(s) focus upon?
Please tick one or more of the following options (see Annex B for definitions).
Leave blank if not applicable

Smallholder rainfed humid	***Irrigated***	***Wetland rice based***	***Smallholder rainfed highland***	***Smallholder rainfed dry/cold***	***Dualistic***	***Coastal artisanal fishing***
X	*X*	*X*	*X*	*X*	*X*	*X*

*9. How could value be added to the output or additional constraints faced by poor people addressed by clustering this output with research outputs from other sources (RNRRS and non RNRRS)? (**max. 300 words**).*

Please specify what other outputs your output(s) could be clustered. At this point you should make reference to the circulated list of RNRRS outputs for which proformas are currently being prepared.

There are two significant opportunities for clustering this output with related outputs:-

1) Linking with well described and validated technical knowledge (and products) in the livestock sector with potential for out-scaling these to other locations through a participatory adaptive research process drawing on the tools and lessons in The Book.

2) Linking good practice in participatory livestock research and scaling up in The Book to insights and good practice from other (livestock and crop related) projects focused on the pro-poor promotion and communication of research knowledge, participatory approaches and improving access to markets,

Some opportunities are indicated in the table below

Project and leaders	***Lead organisation***	***Country and Opportunity***	***Topic/Relevance***

D. Miano Mwangi	*KARI*	*Kenya (1)*	*Herbaceous forage legume technologies*
R6153, R5732 W. Thorpe	*ILRI*	*Kenya (1)*	*Forage and concentrate usage in smallholder dairy farming*
R7634 C. Ahuya	*FARM Africa*	*Kenya (1 and 2)*	*Community based goat production in Kenya*
R6608. R8151 A Vatta	*Onderspot Veterinary Institute & CTMV*	*Southern Africa (1)*	*Control of Worms in Goats*
R? I. MacDonald	*Consultant*	*Various (1 and 2)*	*Rabbit Farming*
Simon Anderson	*Imperial/Wye College*	*Mexico (1 and 2)*	*Campesino experimentation*
R7637, R5690 F. Sinclair H Gurung	*Univ of Wales, Pakhribas Agricultural Centre*	*Nepal (1 & 2?)*	*Animal feed management*
R7173, R7987 S Torr	*NRI*	*E and Southern Africa (1)*	*Integrated tsetse control – decision support and diagnostics*
R8428, R8349 A Sutherland	*NRI, KARI, etc*	*E. Africa (2)*	*Communication strategies for semi-arid/less favoured areas – linking participatory livestock research with development of local communication strategies*
R8429,R8281 B Pound	*NRI, NAADS*	*Uganda (2)*	*Linking supply with demand for agricultural information – participatory livestock research as applied to local validation and production of training materials*
R8299, R8296, R8219 S. Simons	*CABI*	*Kenya (2)*	*Accelerated Uptake and impact of research outputs- linking participatory livestock research to use of Farmer Field Schools*

Validation

B. Validation of the research output(s)

*10. **How** were the output(s) validated and **who** validated them?*

*Please provide brief description of method(s) used and consider application, replication, adaptation and/or adoption in the context of any partner organisation and user groups involved. In addressing the "who" component detail which group(s) did the validation e.g. end users, intermediary organisation, government department, aid organisation, private company etc... This section should also be used to detail, if applicable, to which social group, gender, income category the validation was applied and any increases in productivity observed during validation **(max. 500 words)**.*

Validation - how

Experienced practitioners from a variety of intermediary organisations were involved, including Public Extension Providers (e.g. Ministry of Livestock and Fisheries, Kenya) National Agricultural Research Institutes (e.g. Kenya Agricultural Research Institute), NGOs (e.g. ITDG in Kenya and Sudan), Universities (e.g. 2 Mexican universities) and CGIAR centres (CIAT, ILRI). The book draws on the author's own experience and the extensive experience of the various case study authors in developing and testing participatory livestock research and dissemination methods. Each of the 10 case studies used participatory methods to develop and test technologies with livestock-keepers (i.e. end-users) in the field. A number of the case studies also used participatory approaches to share, disseminate and adapt livestock technologies more widely.

Validation - Who
Both the livestock technologies and the participatory research methods were validated by technical experts working in partnership with local livestock producers. In some cases the livestock keepers belonged to farmer associations or groups, and in other cases they were individual collaborators in the research process. In some the participants were also processors of livestock products, particularly when quality was an issue, as in the case of spinners and weavers of wool from sheep in Mexico.

Replication and adaptation
Because the methods described have been successfully used by a range of intermediary organisations working with a range of livestock species and types of local community, the scope for replication and adaptation of their use is considerable.

Pro-poor targeting
Poor women were the main end-user groups in some of the case studies, including one in India and two in Mexico. The author's own field work on goats (R6953) and chickens (R7633 led by Dr Nick Sparks of Scottish Agricultural College) in India worked with landless women, as well as tribal women involved in semi-arid production systems.

The options provided in questions 7 and 8 do not include a 'landless' category - whereas the LPP categories of types of livestock-keepers and systems included 'landless'. This is important from the point of view of poverty focus, as many of the 'extreme poor' in Asia (and parts of peri-urban and high potential Africa) do not have access to land for crop production (except perhaps as share-croppers), but do own a few smallstock and have access to common grazing areas.

As many of the case studies illustrate, care was taken to target parts of the livestock sector involving and benefiting a greater proportion of poorer households and women livestock keepers (e.g. poultry and small ruminants). Measures and guidance to ensure inclusion of issues affecting poorer livestock keepers in the research agenda and to foster the participation of marginalised groups throughout the (on-farm) research process are addressed in The Book.

(441 words)

11. ***Where and when*** *have the output(s) been validated?*

Please indicate the places(s) and country(ies), any particular social group targeted and also indicate in which

production system and farming system, using the options provided in questions 7 and 8 respectively, above ***(max 300 words)****.*

The methods and approaches described in the book have been tested in a range of countries, agro-ecologies and livestock systems. The details are in the Table below.

Countries	**Livestock systems & intervention**	**When**
Mozambique, Tanzania, Ghana	Smallholder Rainfed humid, Semi-arid, Peri-urban, High Potential,- smallholder poultry keepers (Newcastle Disease – vaccine)	1990 onwards
Kenya	Semi-arid- mixed livestock-crop .Small livestock keepers- small ruminants (goats – mange treatment)	1994-96
Kenya	Arid pastoral systems – (ethno-veterinary knowledge application)	1996-2004
Kenya	High potential, peri-urban, hillsides smallholder areas– smallholder dairy – (concentrate feed use improvement)	1998-2000
Kenya	High potential, peri-urban, hillsides smallholder areas– smallholder dairy – (forage legumes reintroduction)	1994-98
Sudan	Semi-arid Crop-Livestock systems – animal farm power – (donkey ploughs development and supply)	1985-2002
India	Semi-arid, hillsides and forest-agriculture production systems, although some could also be classified as peri-urban – Small livestock keepers- small ruminants (goats – supplementary feed development)	1997-2002
S.E. Asia - China, Indonesia, Lao PDR, the Philippines, Thailand and Vietnam	Upland smallholder systems growing forage crops – (improving forage systems – cattle, goats, fish)	1995-2002
Mexico	High to medium potential mixed crop-livestock systems - smallholder livestock (pig and poultry – adapting and out-scaling production improvements)	1997-2001
Mexico	Highland smallholder dry/cold – (improved wool production and quality)	1990s onwards

193 Words

Current Situation

C. Current situation

12. ***How and by whom*** *are the outputs currently being used? Please give a brief description* ***(max. 250 words****).*

More than 1000 copies of the book have been sold since it was published in March 2005. CTA purchased 500 copies for distribution to organisations in Afro-Caribbean Pacific (ACP) countries through its Distribution of Agricultural Reference Books programme. LPP purchased 100, the International Livestock Research Institute (ILRI) purchased 60, and NRI purchased 50. The rest have been purchased by individuals and organisations around the world.

Unfortunately, there is no system in place providing further detail for identifying who has received copies of the book, or for tracking its use by those who have received it. Judging from the mandates of organisations that have ordered the book it could be assumed that professionals working in the livestock sector (research, extension, higher education) in developing countries have been the main recipients and potential users. There is also evidence that the book is being used by universities in Europe as elaborated below (Q16). Further specific information on current promotion and uptake pathways for The Book is provided below (Q15 and 16)

168 words

13. ***Where*** *are the outputs currently being used? As with Question 11 please indicate place(s) and countries where the outputs are being used* ***(max. 250 words).***

There has not been a formal system for tracking use of the book, as the project ended with its publication. However, it is known that the book has been used in various developing countries including India and Vietnam - See Q16 below for specific examples of use relating to capacity building.

14. What is the scale of current use? Indicating how quickly use was established and whether usage is still spreading ***(max 250 words).***

Not known – see above

15. In your experience what programmes, platforms, policy, institutional structures exist that have assisted with the promotion and/or adoption of the output(s) proposed here and in terms of capacity strengthening what do you see as the key facts of success? ***(max 350 words).***

International programmes Both the PROLINNOVA programme (see Q22.2 below) and Interco-operation's Agriculture and NRM programme have made their collaborators and projects aware of The Book.

DFID's Livestock Production Programme developed an international network of livestock researchers focused on small-stock research (with a pro-poor orientation). The network had five annual workshops, in India, Tanzania, Kenya, Uganda and South Africa at which the author and his Indian colleagues presented papers describing their

participatory research in India (R6953 and R7633). LPP distributed copies of The Book to all project leaders, including members of the network.

The CGIAR centres have a system-wide initiative on Participatory Research and Natural Resources Management that is promoting participatory research within the CGIAR system. The Book has been publicised on the initiative's website. ILRI has become more receptive to participatory approaches, as is reflected in the fact that it purchased 60 copies of the book.

National programmes and policies Some countries have had national initiatives that have promoted and legitimised participatory and innovative approaches to reforming practice in agricultural research and extension, e.g. Kenya Agricultural Research Institute's National Agricultural Research Project Phase 2 (1994-99), and currently the Kenya Agricultural Productivity Project and the Strategy for the Revitalisation of Agriculture,.

Supportive Institutions. Research institutions, often with donor influence, have given vocal support to participatory research approaches, but these are not often backed by appropriate incentives and resources. Incentive systems based on numbers of papers published in scientific journals have tended to discourage participatory research. Many journals continue to regard such research as 'messy' and unscientific, refusing to publish articles. In addition, the funds available to researchers for travel and subsistence when doing research on-farm are often insufficient. Within the international research organisations, such as ILRI, the pressure to demonstrate impact to funders has resulted in more partnerships with NGOs and also more involvement with dissemination work.

Capacity strengthening through the use of the methods described in The Book requires funds. As The Book was published in March 2005, when DFID's LPP was coming to an end, no funds have been available for capacity strengthening with specific reference to The Book.

350 words

Environmental Impact

H. Environmental impact

24. What are the direct and indirect environmental benefits related to the output(s) and their outcome(s)? ***(max 300 words)***

This could include direct benefits from the application of the technology or policy action with local governments or multinational agencies to create environmentally sound policies or programmes. Any supporting and appropriate evidence can be provided in the form of an annex.

Generally speaking the outputs and outcomes of PLR are likely to be environmentally neutral, but a wide range of relationships is possible depending on the nature of the technology and the type of livestock. In the countries and systems likely to be targeted, processes of agricultural intensification generally involve more controlled grazing of

livestock. Controlled/zero grazing usually reduces the negative effects of livestock on soil conservation, and enables a more targeted use of animal manure in soil improvement. The effects of controlled grazing on rangeland and cropland species bio-diversity may vary. Participation enables rich local knowledge on bio-diversity to be incorporated into any proposed changes in grazing management with a view to maintaining and improving bio-diversity.

(116 words)

25. Are there any adverse environmental impacts related to the output(s) and their outcome(s)? ***(max 100 words)***

As far as is known, none of the 10 case study projects in The Book has had any adverse environmental impacts. In principle, PLR could result in increases in herd sizes, which in turn could lead to increased pressure on pastures and possibly land degradation. The environmental risks (i.e. overgrazing) are higher where improvements in animal health are not accompanied by improvements in nutrition and where livestock are the main source of wealth, resulting in over-stocking where grazing of rangeland is the main livestock feed source.

However, the PLR process can facilitate discussion of such issues among livestock-keepers and development of any steps required to avoid or minimise adverse environmental impacts.

(111 words)

26. Do the outputs increase the capacity of poor people to cope with the effects of climate change, reduce the risks of natural disasters and increase their resilience? ***(max 200 words)***

Climate change Climate change appears to manifest itself in various ways, varying from one region of the world to another. Across the full range of production systems affected by climate change it is difficult – and probably inappropriate – to make generalisations about whether, and to what extent, PLR outputs increase poor people's capacity to cope. There are many types of livestock, each well suited to some climatic situations and not to others. What can be said is that developing the capacity of poor people to identify and test technologies to address new constraints, including any arising from climate change, should enhance their general capacity to adapt and cope with change.

Shocks and resilience In the semi-arid areas of the tropics, livestock are extremely important to livelihoods and coping strategies. The frequency and severity of extreme climatic events (droughts, floods and heavy rainfall) is likely to increase. A major dimension of people's resilience to such shocks is the amount of liquid assets they have available to cover the costs of coping with those shocks. Small livestock are an important element of household coping strategies in many developing countries, particularly in dryland regions. Thus, insofar as PLR increases people's smallstock assets, it should increase their resilience. In cases where animals are important for farm power, their health, survival and productivity are also key in promoting resilience.

(223 words)

Annex

References

Bosma, R.H., Roothaert , R.L., Ibrahim, 2001 Economic and social benefits of new forage technologies in East Kalimantan, Indonesia. CIAT Working Document No. 190. Centro Internacional de Agricultura Tropical, Los Banos, Philippines.

Bosma, R.H., Roothaert, R.L., Asis, P., Saguinhon, J., Binh, L.H.,Yen, V.H., 2003. Financial and social benefits of new forage technologies in Mindanao, Philippines and Tuyen Quang, Vietnam. CIAT Working Document No. 191. Centro Internacional de Agricultura Tropical, Los Baños, Philippines, pp. 92.

Okuthe, O.S., Kuloba, K, Emongor, R.A., Ngotho R. N., Bukachi, S., Nyamwaro, S.O., Murila, G. and Wamwayi, H.M. (2002) National Agricultural Research Systems Experiences in the Use of Participatory Approaches to Animal Health Research in Kenya. Paper presented at the international conference *Primary Animal Health Care in the 21st Century: Shaping the Policies, Rules and Institutions,* 15th-18th October 2002, Mombasa. African Union's Interafrican Bureau for Animal Resources, Nairobi.