Making stakeholders aware of advances in smallholder dairy farming

RIU

Validated RNRRS Output.

A new 'toolbox' has been developed to make it easier for organizations to provide easy-to-understand information to anyone involved in smallholder dairy production. Known as the Smallholder Dairy Toolbox (SDTB), its software allows users to access useful information and provide it in formats that are appropriate to a whole range of stakeholders—from farmers and delivery agents to planners and policy makers. The toolbox is intended to overcome the fact that the training and information materials currently available are often inadequate and difficult to access—especially for farmers and extension workers who have very little spare time. It is available on CD or as a download from the project website, and is already being used in some parts of Kenya.

Project Ref: **LPP01:**
Topic: **7. Spreading the Word: Knowledge Management & Dissemination**
Lead Organisation: **Stirling Thorne Associates, UK**
Source: **Livestock Production Programme**

Document Contents:

Description

LPP01

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

Geographical regions included:

India, Kenya,

Target Audiences for this content:

Livestock farmers,

A. Description of the research output(s)

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.

Smallholder Dairy Toolbox. A Flexible Delivery Platform for Media Supporting Innovation in the Smallholder Dairy Sector.

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

Livestock Production Programme

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.

ZC0261: Development of a Dairy Toolbox.

a. Stirling Thorne Associates, Llangefni, United Kingdom. Dr P.J. Thorne.
b. ILRI (International Livestock Research Institute), Nairobi, Kenya. Dr D.L. Romney. Ms M. Wambugu.
c. ILRI (International Livestock Research Institute), Hyderabad, India. Mr D. Thirunavukkarasu.
d. ICRISAT (International Crops Research Institute for the Semi-arid Tropics), Hyderabad, India. Dr V. Balaji.

*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.*

Poor access to relevant information is a widely recognised constraint for a range of stakeholders in the smallholder dairy sector. These include farmers, delivery agents, service providers, development agencies, planners and policy makers. Training and information materials are often inadequate, scattered and difficult to access, especially by extension agents and farmers who have very limited resources, facilities and time. Existing extension materials often focus on the static application of a specific technology and make little effort to address farmers' needs to adapt these for their own situations or to identify appropriate options from a range of technologies. Furthermore, livestock development efforts have sometimes promoted poor, or at least poorly-focused, science in the form of inappropriate choice and promotion of specific technologies. In other cases, these efforts may not have access to appropriately packaged information, nor to effective methodologies for transfer and innovation of technology.

Project ZC0261 aimed to address these constraints through the development of an electronic Smallholder Dairy Toolbox (SDTB). This involved two major strands of work:

a. Content collation and production. The project team has assimilated a variety of existing and original content for the SDTB. This included static documents, simple software tools, Internet hyperlinks and original content "snippets" that could be manipulated by the user to produce a wide range of customised information products.
b. Software development. This focussed on the production of two bespoke software packages; an SDTB content management system and the SDTB Viewer software to facilitate the organisation and delivery of the toolbox's diverse content on CD-ROM.

The SDTB system allows information resources and tools to be centrally packaged and distributed in a broad range of formats. Content has been specially commissioned and existing sources identified and assembled. This toolbox content can be accessed via a 'navigation tree' or by key word searches. Information exists in the toolbox as 'snippets' – small units of information that users can select and combine to produce customised information products. Alternatively, the user can simply select from around 200 ready-to-use default fact-sheets. The toolbox can be distributed to end-users either on CD-ROM or, where connectivity is not a problem, can be accessed via the Internet. It is expected that as Internet connectivity increases and costs drop, more and more users will be able to access the toolbox on-line, making the most up-to-date content instantly available.

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*		

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

Milk and milk products.

The major commodity focus of the tool box is upon the production and effective marketing of milk and milk products. As smallholder milk production is often conducted in mixed farming systems, some material is included that is relevant to other products (e.g. manure / compost used for crop production).

The most important novel feature of the smallholder dairy toolbox is its capacity to manage and deliver information in a wide range of media formats, from static documents to stand-alone decision support tools in a way that makes them both easily accessible and locally-customisable. The content management and delivery software developed for the toolbox could be used in virtually their current form to produce toolboxes relating other commodities, production systems or issues.

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

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*	

*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.

The dairy toolbox was intended to act as a focal point for bringing together significant material related to dairy production generated by both RNRRS and non-RNRRS research programmes. As such it already includes material that describes RNRRS outputs in a way that should facilitate their wider promotion. It would be sensible to verify that all the information that has been generated by RNRRS programmes has indeed been included and reference to these output dossiers offers a rapid and simple way of doing this.

The content management system developed for the toolbox allows the submission of material by any user or contributor approved by the administrators. Wider promotion of this feature could greatly enhance the quantity and quality of the information held in the toolbox, potentially turning it into a powerful platform for information exchange.

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)**.*

The main approach taken to validation of the toolbox during development was to integrate feedback from users and potential users and partners. This enabled the project team to refine and improve the product and address any difficulties identified in relation to using content and to identify and address any gaps in the information and tools included. Validation focused on two main issues during the development and implementation of the toolbox:

Software Design: The key elements required in the software were identified by the project partners and reviewed at various stages of development by potential implementers (i.e. the direct users of the toolbox including government and private extension services)

Adequacy of Content: As the toolbox was intended as an integrating output it was necessary to assume that the validity of the material included had been effectively determined by its originators. Some aspects of the presentation of some of this material were however quite novel and the acceptability of this has been examined with toolbox users.

*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)**.*

Validation activities started in April 2004 and are still running in east Africa.

Activities	*Software Design*	*Content Adequacy*
Kenya		
Participatory information needs assessment		x
Extension workshop	x	x
Formal stakeholder review		x
India		
Consultation with VASAT (Virtual Academy for the Semi-arid Tropics)	x	
Consultation with RRIDMA (Rajasthan Rural Institute for Development Management)	x	x

Current Situation

C. Current situation

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

The principal objective of project ZC0261 was to develop a toolbox. As this work has only recently been completed, usage of the output has not been widespread at the time of writing.

*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).***

Currently, the use of the toolbox is restricted to a number of organisations in Kenya including secular and faith-based NGOs and government extension offices (see Annexe Table 1).

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

We would estimate that there are currently less than 50 active users worldwide. However, this could be expanded rapidly with effective promotion in future.

*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).***

A key driving force in achieving measurable impacts with the toolbox is the fact that demand for information on livestock management practises is growing. This is due to a number of factors:

a. increased awareness amongst producers of the importance of knowledge as a “commodity” for increasing production.
b. a greater incentive for higher and more cost effective levels of production arising from a shift towards the formal and informal marketing of livestock products.
c. the creation of a general climate that encourages a shift to more efficient production as countries attempt to move towards self sufficiency in livestock products for domestic consumption and for the export market.

Traditionally, the public extension system has been the major source of technical information. However as a result of inadequate resources, training and information materials are often inadequate, scattered and difficult to access. Furthermore, they often focus on the technology alone and do not assist either delivery agents or their clients to consider whether particular practices are appropriate for their own circumstances defined by client objectives, management system, resource endowment or even agro-climatic conditions. Managers and policy makers with remits relating to extension services are well-aware of these difficulties and novel approaches such as that encapsulated in the SDTB are of great interest to them in bridging the gap between current capacity and the new demand that is arising.

Current Promotion

D. Current promotion/uptake pathways

*16**. Where** is promotion currently taking place? Please indicate for each country specified detail what promotion is taking place, by whom and indicate the scale of current promotion **(max 200 words).***

The existence and availability of the toolbox, both as a resource to be used and a repository for further information and tools, needs to be made more widely known. This will initially be done by communication with the development partners and organisations that have already expressed interest in using the toolbox. Beyond this, opportunities to promote the toolbox to a wider audience will be taken whenever these arise. These are likely to include featuring the toolbox on the websites of ILRI, ICRISAT and LPP in addition to a dedicated section of the Stirling Thorne Associates website (www.agritools.co.uk/sdtb_index.html) where the SDTB can be downloaded. Increased awareness of the existence of the toolbox will also be achieved through opportunistic interactions with organisations that are likely to be interested as well as journalists and communication specialists.

*17. What are the current barriers preventing or slowing the adoption of the output(s)? Cover here institutional issues, those relating to policy, marketing, infrastructure, social exclusion etc. **(max 200 words)**.*

Lack of investment in promotion and marketing of the toolbox to appropriate organisations (see Q12).

Lack of funding to fully develop the wide range of potential delivery channels for toolbox content.

*18. What changes are needed to remove/reduce these barriers to adoption? This section could be used to identify perceived capacity related issues **(max 200 words).***

Lack of investment in promotion and marketing: This shortcoming ought to be readily addressed by adequate promotion through formal dairy organisations as well as under the umbrella of the RiUP.

Lack of funding to fully develop delivery channels: The core data that constitutes the information that is held and distributed by the toolbox is stored in a central internet database. This means that:

a. it can be routinely updated and augmented;
b. it might be opened to wider (even unsolicited) contributions (see also Q6). Some progress has been made in this direction during the course of the work.
c. the available delivery platforms for the toolbox can be easily extended by creating external add-ons to the system – for example to create PDA or smartphone compatible versions or to deliver dynamic market information by SMS.

These applications would however require support for management and moderation of toolbox content.

19. What lessons have you learnt about the best ways to get the outputs used by the largest number of poor people? ***(max 300 words).***

Given the stage of implementation of the Smallholder Dairy Toolbox, it seems premature to attempt to answer this question! The primary objective of the project was to deliver a product that could facilitate the passage of relevant information to those amongst the poor who might reap some benefit from it. It aimed to achieve this in two ways:

a. To package the information for intermediate users so that they, often for the first time could access problem-oriented and customisable material that would be of relevance to the end-user they aim to service.
b. To provide delivery formats for this information that have been shown to be effective with end-users so that they receive information that is not only relevant information but is also in an easily understandable and useable format.

The extent to which the toolbox has achieved these aims will only become apparent when it has been more widely used and monitored.

Impacts On Poverty

E. Impacts on poverty to date

20. Where have impact studies on poverty in relation to this output or cluster of outputs taken place? This should include any formal poverty impact studies (and it is appreciated that these will not be commonplace) and any less formal studies including any poverty mapping-type or monitoring work which allow for some analysis on impact on poverty to be made. Details of any cost-benefit analyses may also be detailed at this point. Please list studies here.

Impact studies have not taken place as the toolbox has only recently reached a stage at which it might reasonably be applied in the field (see responses to Q10, Q19 and Q21 for further discussion).

21. Based on the evidence in the studies listed above, for each country detail how the poor have benefited from the application and/or adoption of the output(s) ***(max. 500 words):***

- *What positive impacts on livelihoods have been recorded and over what time period have these impacts been observed? These impacts should be recorded against the capital assets (human, social, natural, physical and, financial) of the livelihoods framework;*
- *For whom i.e. which type of person (gender, poverty group (see glossary for definitions) has there been a positive impact;*
- *Indicate the number of people who have realised a positive impact on their livelihood;*
- *Using whatever appropriate indicator was used detail what was the average percentage increase recorded*

The toolbox was intended as an integrating output for the products of RNRSS-LPP research projects and complementary information from elsewhere. As such, there are a number of points to note that bear upon our assessment of its capacity to generate pro-poor impacts. Firstly and of necessity, it was implemented, relatively recently, towards the end of the research strategy. This means that it has yet to be widely applied so evidence of its role in facilitating poverty impacts is lacking. Secondly, the toolbox itself can only ever be considered capable of generating impacts on poverty indirectly. Any impacts are actually generated by the application of the tools that it contains in situations where they are likely to be effective. Future evaluation of the toolbox needs to focus on its role as a facilitator in the process of impact generation. This might be achieved through:

a. Making information on the implementation of technologies more wider accessible.
b. Improved targeting of appropriate information to specific end-user groups.
c. Improved standards for the presentation of information and the capacity for intermediate users to customise for local needs (e.g. through translation or augmentation).

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.

The toolbox *per se* does not generate positive or negative environmental impacts. Any environmental changes can only really be attributed to the implementation of the farming methods that it seeks to promote. However, the toolbox does offer a powerful platform for the promotion of dairy management practices that are environment-neutral or beneficial in the longer term.

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

There is no reason to anticipate adverse impacts due to the implementation of the practices that are promoted via the toolbox. All content is moderated and environmental sustainability is amongst the criteria applied during selection.

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)***

Poor people who derive a benefit from the toolbox should gain access to a wider range of livelihood options that, in turn, will increase their capacity to deal with the risks and threats that they face.

Annex

Annexe Table 1: List of Current Users in Kenya

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Unga Feeds, Nairobi

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Mtakatifu Clara Resource Centre, Lare, c/o Humprey Khakula

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DLPO, Thika

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Farming Systems, Nakuru

KARI, ATIRI
HPI (Nairobi)

Extension Department, MoLFD
SACDEP, Thika