Mainlining farmers: protocol and practice - Arri

Record of a series of meetings held in Babati, Arri and Tengeru: Team members included Ms Stathers, Mr Riwa, Ms Salome, Ms Mosha, Mr Mngara, Mr Maige, Dr Kaoneka, Mr Sembosi, and Mr Morris

Babati briefing, a.m. Wednesday 13 August 2003

TS and MM revisited project purpose, outputs and activities. TS dealt with the specifics, and MM with the processes involved and Output 6. MM distinguished between 'dissemination' and 'promotion': the former relating to extending the projects findings during the lifetime of the project to both intermediate and end-users; the latter however is more strategic, and relates to engaging intermediate users in the task of adding value to the research findings in advance of their own dissemination activities. Promotion aims to ensure that intermediate stakeholders will continue to use the research findings (i.e. new knowledge and/or practices) to develop additional products (e.g. DE commodities) and contribute to processes (e.g. policy development), and extend these developments to end-users and further intermediaries, after the project has finished. It is about sustainability and scaling up to ensure maximum impact.



Dr Kaoneka indicated that these definitions raised questions about the current wording of Outputs 4 & 5: the former which relates to the production of extension material omits the word dissemination, while the latter combines both dissemination and promotion. MM agreed that this confusion should be addressed.

MM presented the following on exploring farmer diversity:

Reasons for and ways of disaggregating rural communities have been sought from the literature, from our own organisational experiences and that of intermediate stakeholders, and most recently in the farmer evaluation exercise, from key informants and farmers themselves at the different trial locations, where 'wealth ranking' was utilised.



The measure of this project will not only be determined by good science, but also and essentially by whether people make use of the technology. From the literature we note that analytical approaches with respect to post harvest issues have tended to adopt a technology, crop or pest focus, and rarely a farmer (or livelihood) focus.

Conceptually the different approaches may be represented by intersecting bands as in Diagram 2. The challenge with respect to farmer up-take is to focus our attention on the area where technological, crop, pest and farmers' concerns all intersect, which is represented in the diagram by area A. Areas such as B, outside the farmers band, may be of relevance to those with an interest in investigating a given technology, for example, but are not directly relevant to farmers' and their livelihoods¹.

From a farmer-centred approach, and with the area of maximum overlap A in mind, the initial challenge² is to ensure that we give consideration to the diversity of farmers as represented by the breadth of the *farmer focused approach* band in Diagram 2. This would for example optimise our understanding of the relevance of a given technology (and/or crop, pest) to all farmer types, which in turn would provide the broadest base for informing policy and promotion, and from which to subsequently target extension and dissemination. Working with a narrower group of farmers (e.g. progressive farmers) would not be expected to provide the same breadth of analysis (i.e. only a slice of area A along the farmer-focused axis would be in focus).

Our objective then in exploring different group identity types may be expressed in terms of seeking to optimise the inputs (e.g. knowledge, practices, experiences) of different farmer types in the realisation of the project outputs and purpose. And the underlying hypothesis would be that participating farmers, selected according to different identities, will inform and contribute differently to project outputs.

Table 1 was devised as a tool to explore the potential implications of farmer diversity against the project outputs and to provide a means of comparison between different identity groups. A first attempt at using the table was undertaken in the IPM office, Shinyanga, by Mr Riwa, Mr Kitandu and Mr Morris (see earlier discussion paper 'Recognising farmer diversity, mainlining and optimising their different inputs', appended to the review workshop report).

Before using the Table 1 to assess different group identities, MM invited the team to come up with possible group identity sets (e.g. self sufficient vs. food insufficient households, male vs. female-headed households etc). The following various identity sets were identified: wealthy-poor, levels of education, literate vs illiterate, healthy vs sick, age, disability. [N.B. It remains conceivable that different identity groups might be used at different locations (i.e. Dodoma, Manyara and Shinyanga).]



Diagram 3. Livelihood cycle for individual farmer or household

Mainlining farmers: protocol and practice - Arri; Mike Morris, August 2003

The team proceeded to work through the various identities listed in column 1 of Table 1, assessing their respective merits in terms of 'relevance' to the project outputs (column 2) and ease of application (column 3).

When assessing wealth groups, MM elaborated some of the difficulties and criticism associated with the both the idea of wealth ranking and its implementation. He also used the generic livelihoods model shown in Diagram 3 to contextualise the indicators identified by key informants during the earlier farmers' assessment of treated stored grains, and the usefulness of livelihood approaches in capturing the diversity of people's lives.

The selection of wealth (or poverty) indicators is generally improved if they cover livelihood assets, strategies and outcomes, as only together are the fullest implications of seasonality taken account of, and people's resilience or vulnerability over time captured. Moreover the livelihood framework (Diagram 3) provides a mechanism which captures and contextualises all the aforementioned identity sets (e.g. food in/sufficiency - outcomes; health status - human capital/assets; wealth - outcomes).

The outcome of completing Table 1, as per the similar exercise in Shinyanga, was that group identities determined by existing technology use (i.e. commercial products, traditional practices only, none) scored most favourably in terms of relevance to project outputs. This position remained unchanged when the merits and demerits of the process were taken into account³. It was also concluded that gender (and possibly age) be incorporated into the selection process as a crosscutting theme i.e. men and women (youths and the elderly) would be sought from each group.

The comparison between wealth and technology user groups proved very interesting, with both identity groups spanning all farmers. It was noted that while technology use does not explicitly relate to wealth or poverty status, there may well be an implicit relationship with key determinants of people's livelihoods (e.g. farming strategies, resources, knowledge, access to services), which could form the basis of further study.

In Arri the traditional-practices group might divide further into FarmAfrica research group members and others. It may also be that the synthetic pesticide user group divides into 'early adopters' and 'followers-on'.

Farmer-managed trials

TS We want to work with farmers to enable them to compare their existing treatment practices with DEs, suggesting the following outcome:

'Providing farmers with an opportunity to compare farmers' practices with DE technology'

A number of questions arose:

TS:	Some farmers may not have enough grain to take part:
	Could adjacent farmers undertake the trials together?
	Is it too late for farmers to construct kihenge?
Dr K:	How are we going to use the data?

So many parameters So many treatments

Salome suggested the need for extension material. Mr Mngara asked why we wouldn't switch to the farmers' treatment systems - do what they do? Apart from say sacks which are not good for long-term storage - use local structures.

It was agreed that the "farmer's" DE trial would use: 250 g Protect-it / 100 kg grain

Farmers would be able to compare three types of storage:

A. Farmers store farmers' praction

- B. Sack farmers' practice
- C. Sack DE

Evaluation - At what points during the storage season would this take place?

³ It subsequently emerged that there was some concern about establishing the total number of farmers in the village associated with a particular technology-use; and farmers in Zimbabwe had been found to be reluctant to share information on their storage practices. The former would have added weight to the 'demerits' in column 3.

Possibly 3 times per season but we should ask farmers when.

Checklist - To understand in more depth what has happened & influenced their choices over time

To identify the factors used by the different groups of farmers to assess grain protectants

- 1. Discussion about their technology use: What, why, when how?
- 2. Discussion with farmers about the trial suggestions for changes/improvements
- 3. Names from the different groups. How were 4 farmers selected, gender, age, where do they live?
- 4. Plans for tomorrow:

Commercial user-group:	Mngara / Kaoneka
Traditional user-group:	Maige / Salome
'None' user-group:	Rachel / Jeremiah

Wednesday 13 August 2003: Meeting with farmers, Arri village, 4.00 p.m.

The intention of inviting a number of farmers to manage trials using DEs during the 2003-04 storage season had been raised on a number of earlier visits, albeit we are only sure that those present on the respective occasions will have heard. The day before, after treating the maize for the researchermanaged trials and putting it in the vihenge, Mr Riwa spoke to the farmers present. The number of farmers present, which included several women, had noticeably grown following the ending of an impromptu village meeting to address a recent unexpected event.

Mr Riwa indicated that we would like to invite some farmers to trial the DEs at their own farms; the researcher-managed trials are located a go-down at a village intersect where two or three shops, and a meeting room are found. He explained that we wanted them to compare the process and results of treating two similar quantities of grain, one using DEs and the other using the protectant they have or would normally use to protect grain throughout the storage season. He indicated that the project would purchase the grain from them at the current market price (Tsh 1,500 per sack for maize), but that they would however store it and receive it back after the completion of the trial. He asked in turn which farmers used synthetic pesticides (e.g. ASD, AEC, Stoker Super dust), traditional protectants only, or none at all to raise their hands. The approximate responses were 20 synthetic pesticide users (SPUs), 8 traditional protectant users (TPU) - but 3 or 4 of these, also used, or had used, synthetic pesticides⁴ - and 2 non-users.

Initial expressions of interest in the offer were muted. Mr Riwa proposed that they discuss it further amongst themselves and with other farmers, and that we would return on Wednesday (tomorrow) at 3.00 p.m. to follow-up the offer with them.

Questions or concerns raised included:

- Sh/could more ASD be added to maize already stored a long time while awaiting a favourable up-turn in the price?
- Grain bought from the Tanganyika Farmers' Association (TFA) was sometimes not viable.
- Does the repeat application of storage treatments effect viability?
- Why does some maize not produce a cob?
- Can botanicals be added to grain already treated with Actellic if one wants to store it for longer?
- Why were farmers not notified of the offer at the nani-nani meeting?
- Question about attendance?

On returning to the village at 4.00 pm, Wednesday, a large gathering (~50 farmers) was present. Mr Riwa addressed those present, elaborating again the proposal, and prompting further enquiries, including the following:

- Can you provide enough protectant for all of my grain? (A: Yes)
- If I take part in the trial using the DEs do I have to store it in a kihenge? (A: You can use any storage structure)

⁴ Some Arri farmers are members of Farm Africa's farmer research groups, who as such may be experimenting with botanicals or 'traditional' protectants, but may be untypical of this wider group (e.g. TPUs).

• We are producing other grains in addition to maize (e.g. sorghum); will DEs be effective against the storage pests of these crops? (Yes, and you are welcome to use other grains in the trial)

Mr Riwa then read out the list of 37 farmers, collected by the village chairman and bwana shamba/s, who were interest in participating in the trial. The list included the grain and amount that each farmer was prepared to involve in the trial. Maize (2 bags) predominated, but 1 bag of sorgum was also registered together with two farmers wanting to treat 2 debes of beans (1 debe (a plastic bucket) = \sim 20 kg.). Twelve of the 37 farmers wanted to be involved in the proceedings but were unable or disinclined to provide any grain themselves.

Farmers raised a couple of further points:

- Having bought in some maize one farmer was unsure whether or not it had been treated.
- Some maize was as yet unshelled; when was the treatment to be initiated?

The farmers were then divided into two groups - synthetic pesticide users and traditional protectant (only) users - to be more fully informed about the proposed trials by team members, and to enable the respective team members to make the final selection of participants. This was done by first identifying those who had their grain ready (i.e. shelled and winnowed?) for treatment the next day; the maximum amount was to be 2 bags (i.e. 1 bag to be treated using the DE), but they could determine the minimum.

Before finally departing it emerged that many of the SP user group had not yet bought any pesticides and a number asked whether we could purchase and return with some tomorrow. On reflection we declined as this would appear to alter how and where they obtained synthetic pesticides. This reasoning was understood by the farmers.

Comment:

In accessing the merits and demerits of the respective group identity selection process (Table 1, column 3), difficulties associated with identifying the total number of members in the village in each technology user group (i.e. the proportion of all villagers falling in to each group) were passed over. It is thought however that there may be both constraints⁵ and difficulties⁶ in determining the total group sizes for the village.

The value of this particular methodology is weakened without this information as we would neither know what proportion each group represented of the village as a whole, nor how representative our sample for each group was.

Thursday 13 August 2003:

As agreed by team members after departing the farmers the following day, we would device a number of key questions to be asked of individual farmers at their homesteads after the treatment of their grain with the DE. The following questions were developed by Mr Riwa:

- 1. How much of each crop was harvested last year (2002/3) and the year before that (2001/2)?
- 2. How much was stored for more than 6 months?
- 3. What type of storage was used (storage facility; and, which if any treatment/dawa)?
- 4. What was the experience with insect infestation was LGB present; or which other insects?
- 5. If a treatment and/or protectant was used was it effective?
- 6. Who in the household is responsible for treating the produce husband, wife or children and why?
- 7. What roles do the husband, wife and/or children play in storage?
- 8. Which years did you experience LGB infestations was it 'high' or 'low'?
- 9. What changes have you made to your storage practices to cope with LGB?
- 10. How did you get to know about LGB and how to control it?

(NB: Nothing about when farmers harvested; possible confusion again between protectant and practice e.g. shelling, winnowing and re-winnowing are all treatments but not protectants; LGB appears as a 'leading question' - it would have been better to ask the general question, and only

⁵ The project leader and national coordinator had doubts about the bwana shamba being able to ascertain the technology-use identity for each household.

⁶ Earlier experience in Zimbabwe revealed that people there were very guarded about revealing what type of protectants they were using.

probe about LGB if not referenced. Omitting to mention LGB would be interesting in itself. Suggest we need to get feedback from the team as to how to upgrade these initial questions for use elsewhere.)

Some initial data from Team A: Mr Mngara (instructor), Dr Kaoneka (interviewer), Mr Morris

Four of the six candidates, Mr Paulo, Mr Marqwe, Mr Daniel and Mr Dosa, partook in carrying out all the treatments.

- 1. Mohammed Shabani: This treatment took place outside the trial's go-down.
- 2. Augustina Salema: homestead located opposite school, 200 metres from village hub. The property comprises a traditional house, at one end of which Augustina stores sacks of grain on a platform (none at present), and a larger fired brick and tin-roofed house nearing completion. She has maize cobs stored in a 'kichanja' behind the traditional house, and a large rectangular winnowing frame. Augustina had selected 'first' grade maize to be treated. Several chicken scratch in the garden and 8 goats are tethered at the foot of some tall trees which provide the property with shade. Banana plants are also present in the garden. Augustina appears to have at least one young child. The sack was put inside the house on the storage platform.
- 3. Sebastion Paulo: Sebastion's property is adjacent to the main Arusha-Mwanza road at the far end of the village. It comprises a large traditional house and separate flat-roofed storeroom and stall. The latter houses a large eccentric kihenge on a platform, and several bags of maize were stood waiting to be transferred to the kihenge. Both Sebastion and his wife would do this. The couple seemed to have about five children. A goat with two kids was tethered at one end of the house and 5 oxen were browsing nearbye. The treated grain was placed in the main house.
- 4. Larent Marqwe (Village Chairman): The chairman's residence is ensconced on top of a hill with a truly wonderful view, some two miles from the nominal village centre. It comprises three buildings: the oldest a large traditional house combining animal stalls, two partially filled vihenge (12 and 16 sack capacities respectively), and bare sleeping platform; the family presently occupies the later traditional house, but a larger fired-brick, tin-roofed house is near to completion. Seven oxen and 12 goats browse within the vicinity of the house. A radio plays inside, and four or five children and the chairman's wife take turns to watch the proceedings.
- 5. Leandry Daniel, his wife and 4 young children, live ³/₄ mile from the chairman's house. The later of the two houses they occupy has mud and wattle walls but a tin roof and gutters. It is here that several sacks of maize are stored. Maize cobs are also amassed on the ground beyond one end of the house, together with a bicycle and ox-cart (mkokoteny). Two calves are tethered close to the cart and several goats wander about. A large heap of bean shucks are located beyond the fence enclosing the maize cobs.
- 6. Nada Dosa lives on the same arc as Daniel and Marqwe, a small field away from the access road. He, his wife and children, including one teenage (or near teenage) son, live in the latest of three traditional houses. Two large vihenge are located in the middle house, while a fenced brushwood platform bearing maize cobs and sorghum, lies adjacent to the oldest and smallest house. A dozen oxen and a donkey browse under nearby trees; two goats and several chicken are also in evidence.

Team D: Ms Salome, Mr Maige, Mr Morris

1. Ramadhani Saidi, his wife and 3 youngish children live over a mile from the centre of Arri. They have three smallish buildings, the latest of which is constructed with fired-bricks but has a thatched roof. The debe of grain was winnowed using the wind to separate the chaff from the falling grain. A single calve was tied to a tree and several chicken - hens and chicks - were scratching a living roundabout.

Mr Saidi has been using Actellic 50 EC and intended to treat his maize with this. Mr Maige was very concerned that research 'interests', as he saw them, did not compromise the household's health i.e. allow the farmer to use the pesticide as a 'control' in the farmer-managed trial. MM indicated that the farmer had been selected on the basis of his technology use, but the study did not require the farmer to put his family's health at risk, and switching the control would not jeopardise the study in the least (unlike the research-managed trials, it isn't that sort of study). MM suggested Mr Maige give the farmer the benefit of his advice and warn him off using Actellic 50 EC. Mr Maige duly informed Mr Saidi that this pesticide was for disinfecting animal stalls and that he should for treat food stuffs with it under any circumstances.

The sack containing the debe of grain would be stored on a platform inside the brick house.

Review meeting, Arusha; a.m. Saturday 16 August

Ms Stathers, Ms Salome, Mr Mngara, Ms Rachel, Dr Kaoneka, Mr Sembosi, and Mr Morris

MM suggested that the objective of the meeting was:

- To learn together from our experience of setting up the farmer-managed trials in Arri
- To improve and further develop a 'protocol' for working with farmers in general and for the farmer-managed trials in particular

Using the existing flip-charts he briefly re-visited the rationale for this work as presented in Babati.

He drew attention to the overarching objective identified at Babati as relevant to working with farmers:

• To identify the diverse factors influencing different groups of farmers in their assessment and use of grain protectants⁷

He suggested that the product of this work approach would include a number of outcomes (even though we were not as yet clear on the methodology for this work - beyond setting up the farmer-managed trials):

- Some farmers will have had the opportunity to asses and compare DEs against their preferred or typical grain storage protectant (using a research-oriented model)
- Trust would be (further) developed between farmers, local extension staff, and non-local team members
- The team would learn from farmers about the factors influencing their decision-making with respect to storage technologies, and, hopefully:
- Farmers would benefit from feedback on their decision-making processes (i.e. an improved decision-making model might emerge)

He invited the team to reflect on two aspects of the process to date with a view of incorporating lessons learnt into the proposed 'protocol':

- 1. On the generally level the 4 steps identified in the planning process, their actual implementation, and lessons that might be drawn and used to develop the protocol.
- 2. More specifically the 10 initial questions selected to give context to the experience and circumstances of the farmers participating in the farmer-managed trials.

Discussion - the four steps

1. Discussion about their technology use: what, why, when and how?

This was initially conceived - the Babati plan - to be done with the farmers all together, but was in fact carried out at the group level. There seemed however to be general approval for the group focus that had been adopted.

- 2. Discussion with farmers about the trial suggestions for changes/improvements, and:
- 3. User group representatives selection how were the (4) farmers selected, gender and age representation, where do they live?

While the initial reaction was to suggest that this had worked, it soon emerged that difficulties had arisen in adopting the proposed approach. MM had originally spoken about providing the farmers with space to encourage dialogue in anticipation of the farmers pointing to constraints (on the team's plan) that the team had failed to recognise, and to design/implementation improvements. In reality our programme was so time constrained, that we were unable to provide the farmers with the space (or suitable material) for reflection and subsequent feedback to take place.

Dr Kaoneka made the point that farmers had promptly indicated that the polythene sheet used by the team in the farmer-managed trials for admixing the DE was expensive, and that rather than purchase this type of sheet they mixed their protectants on a prepared mud/dung surface (farmers are also known to mix protectants in the sack or kihenge). The issues of whether the project should impose the use of a plastic sheet for admixing in the farmer-managed trials or use the farmers' preferred surfaces, and the implications of this decision, had been raised during the Babati planning session -

⁷ MM had suggested the following change to Output 3 in an internal discussion document: **to develop** a comprehensive understanding of the factors influencing different groups of farmers in their assessment and use of grain storage protectants and **to asses** the DE technology against a subset of these factors using a farmer-participatory approach.

but as an afterthought, and was yet to be addressed. Farmers, he said, had also spoken of the failings of the extension services, and for this reason hoped that the DE project might be more pro-active, and involve more farmers.

MM asked what the implications were of moving from the intended 12 participating households to the eventual 21. It was agreed that if all HH were to be followed up this would require much more time and use of resources. Moreover, while it was not necessary to follow up on all, there was a risk of causing offence and damaging trust if selected farmers were subsequently treated differently.

With respect to the technology user groups and the number of sample farmers from each, MM explained that we would (ideally) need to know the user group to which all farmers in the village belonged (i.e. the respective sampling frames). This would then enable us to ensure the optimal representation in our selection of farmers from each group. If for example, the village comprised 160 farmers, 90 of whom had used or were using synthetic pesticides, 75 of whom had or were using 'traditional' protectants, but included 15 who also used synthetic pesticides, with a further 10 farmers typically using no protectant as such⁸, then the user group proportions would be 90:60:10 (see Diagram 4). This might suggest that the number of sample farmers from each of the 3 user groups for the farmer-managed trials might best be 7, 4 and 1 from the SPG, TPG and NPG respectively.



Dr Kaoneka agreed that we first needed to know the total number of farmers in each group to work out the proportions and optimise our sampling from each group.

Difficulties in assessing these total numbers were discussed. There was some doubt as to whether the bwana shamba could be expected to visit all households/farmers before say, the next visit (8 weeks hence), and/or whether farmers would be willing to indicate their general storage practices. It was agreed that rather than be inhibited by this concern we should at this stage treat it as a challenge. Moreover we might also make use of other sources (e.g. Farm Africa, village records, meeting records etc) to seek corroborative information.

It was suggested that the early revelation of our intent to purchase the grain used in the trial might have had a negative effect on farmers' understanding of and interest in the trials.

Jeremia stressed the need to first inform farmers and **create awareness** of the proposed trials. The farmers he suggested had needed more time to digest our ideas. Moreover some farmers who had expressed interest on the first day but had no grain, failed to attend on the second day (NB neither of the two 'no treatment' group members, returned for the second day)



Salome reinforced this message. Although the research-managed trials had been running in the village throughout the last storage season, her experience in the village was that not all farmers knew or understood what the DE trials were about. We definitely needed to create awareness,

using protectants may well consciously engage in

and (in future) in advance of attempting to set up the farmer-managed trials.

Salome also indicated that when she enquired of Mr Maige who had selected the villages for the research-managed trials and how, he had been uncertain. It was generally agreed that the involvement of district and village level extension staff was critical, but there were conflicting opinions on the extent of Mr Maige's earlier involvement. The project leader's recollection was that he had been involved in the selection process, together with the DEO, Mama Sopia, and Farm Africa, when Mr Deusdedith Mathias (then with PHS, before his switch to PHMS) had first visited Babati for the project in (month?) 2002. She indicated that considerable effort had been put into producing and sharing information, but that it was frustrating to only get negative feedback - what could be done?

There was some discussion of the many different factors (e.g. distance, logistics, project familiarity and sense of involvement, resource and time allocations, alternative duties, incentives, motivation, 'personality' etc.) affecting communications between and the involvement of team members operating at different levels in different locations⁹. Ms Mocha and Mr Mngara referred to the last team meeting held at Tengeru in October 2002, when similar concerns about the guality of the contact between Tengeru and Babati had been raised¹⁰. Mr Mngara resurrected the diagram produced in October 2002 (in the Tengeru PM&E meeting), to represent the different levels of operation (e.g. village, district, region) of the project's diverse stakeholders. It with agreed that, irrespective of what had happened, the challenge remained to ensure that district and village level extension staff felt the strongest degree of ownership in the project - "you can't skip the bwana shamba".

Reference was made to the contribution made in Arri by Mr Juma (Mo..?), the secretary of the Farm-Africa farmer research group (compared to that of the former bwana shamba). The new bwana shamba, Mr Mayanzi E. Bubinza, who has a diploma in agriculture, had also been found to be very helpful.

Salome suggested it would be useful to receive copies of Mr Maige's briefing notes to his superiors in Babati (i.e. the RAA and DAA?).

The meeting was severely time-bound to allow those bound for DSM to depart in reasonable time and so as not to impose on Arusha colleagues' weekend. The issue of gender and age representation was thus passed over. It is worth noting however, that while there appears to be a clear gender division of labour operating with respect to most post-harvest activities in Arri, there should be no problem in 'interviewing' both the selected farmer and spouse in future (i.e. treat the household as the unit of analysis, but incorporate gender in addition). The majority of selected farmers were male.

Review of the 10 questions

With the advantage of hindsight and time for reflection, it was noticed that the phrasing of some the guestions could have been improved. Referring explicitly to LGB - a leading guestion - meant in effect that the enquirer and not the farmer were setting the agenda. It would be better to ask the question in general terms in order to hear and learn from the farmers' experiences. Asking if someone's house had a tin roof precluded a more comprehensive response; better to say: 'tell me about your house'.

Contrary to the researcher-managed trials for which it was necessary to rigorously adhere to a researcher imposed protocol, this new work is about the farmer's experience and perceptions, and team members learning from farmers. This will require a different approach from team members.

Mr Mngara referred to a farmer who had pointed to the importance of drying the grain, suggesting that this was particularly important to the efficacy of traditional protectants. MM asked whether we shouldn't seek more information about the date and timing of harvesting, shelling and winnowing the grain.

Dr Kaoneka reinforced the need to give the farmers time to feedback, and Jeremia too commented on the need not to be hurried less one undermine the trust established with the farmers. It was agreed that **building trust** was critical if future interactions were to be fruitful.

Ms Mosha and Jeremia repeated their observation that several farmers did not appear to be familiar with dumuzi. This assertion was highly contentious in other guarters, although the 'disbelievers' did

⁹ Mr Maige for example had not received a copy of the storage stakeholder workshop report, is outside the e-mail loop, and is reliant on public transport to visit the villages; moreover his line manager remains extremely busy, presently wearing multiple hats (i.e. DEO, acting DALDO, DC/LAMP programme coordinator). ¹⁰ There were 5 separate expressions of concern relating to communications between Tengeru, Babati District,

and the two villages, Arri and Singe.

come round to conceding that younger farmers may have missed earlier LGB eradication campaigns. This particular debate seems set to run and run (let's hope there's enough dumuzi this year to upgrade people's knowledge, if not resolve the question?)

Table 1. Relevance of farmer identity types to project outputs, and implication of identification and selection methodology and of implementation

Group identity type	Relevance of group type to project outputs*	Merits & demerits of identification & selection, & of working with group type
Earlier project approaches: In line with existing office practice (e.g. progressive farmers) ? Favouring volunteer / opportunistic farmers ?	1. 4 Uncertainty. 2. - Omits many 3. 4 farmer types 4. 4 5. 4 6. 4	Non-representative of farming community Easy approach due to - group cohesion - collectiveness
Gender (could be treated as cross-cutting identity i.e. in addition to selected type. 'Age', which is also of great significance, might be treated similaly, but was not assessed on this occassion)	 44 - 44 4Will pick up on gendered divisions of labour. 444 Strong implications for gender aspect of extension. 4 strong but indirect message for policy etc 4 Would pick up on procedural differences. 	Easy to make identification Issues which might impede selection - Nature of activity - Cultural norms and practices Require particular skills & capacity Covers everyone, but would not necessarily be representative (e.g. poor widows and rich women very different)
Wealth groups	 4 - 444 Would reflect diverse aspects of acceptability. 444 Strong implications for extension 44 44 Would pick up on procedural differences 	Wealth ranking requires skills & capacity & would involve training. It would demand time of village working group. Tricky to engage with some groups. Important that it's participatory to ensure indicators are location-specific; recent exercise points to difficulties. Good representation of farmers
Groups by storage technology use (i.e. users of commercial products; of traditional practices only; none)	 44 see activity 2.1 - some may be aware of local DEs? 4444 Would reflect diverse aspects of acceptability, including contrasting technology perceptions. 444 Technology-linked implications for extension 4 Some farmers might also be intermediate stakeholders 444 Would pick up on procedural differences 	Identification relatively easy. Limited experience of working with non- users and traditional users. May require different approach and new skills. Group sizes could be issue Good representation of farmers (may incorporate wealth, innovation, etc indicators) Technology focused.