

# Post-Harvest Innovation Learning Alliance (PHILA)



## Post-harvest innovation: Enhancing performance at the interface of supply and utilisation

**Underlying problems:** Household food security remains precarious for large numbers of people in the rural areas and food production levels show little or no increase.



While perceptions of the underlying problem are generally shared, post harvest service provision and supporting research initiatives have focused on the development of technologies with less attention being given to distinguishing between the needs and priorities of different households, to

exploring farmers' own research capabilities, or to understanding delivery system constraints.

Although some attention is focused on the market, this does not extend to appreciating or addressing the concerns of those many small-scale farmers who struggle to produce enough food to feed their families and replenish their stores for the coming season.

**Innovation systems:** More recent approaches to improving the impact of research and development place greater emphasis on the rapidly changing socio-economic, political and environmental contexts (e.g. civil service reform and decentralisation, changing livelihood scenarios, trade liberalisation, HIV/AIDS), and on the importance of a diversity of key actors and organisations to the scaling-up processes. New products and processes are brought into economic and social use through the activities of these networks of organisations, as mediated by various institutions and policies – all together referred to as the *innovation system*. The key challenge to effecting *impact* is not perceived in terms of devising new technologies – *doing different things* – but in bringing about changes in how the innovation system works – *doing things differently*.

### The Post-Harvest Innovation project:

This project aims to generate and promote new ideas as to how the *national innovation system* can be better mobilised to sustain the uptake and adoption of post-harvest knowledge by poor

farmers. Post-harvest here refers to storage, processing and marketing issues. As a strategy to better facilitate this process the project is working in *alliance* with a number of key partners with post-harvest interests to establish better ways in which organisations might work and learn together – a *learning alliance*.

### Learning alliances:

- Are groups of individuals or organisations with a mutual interest in solving an underlying problem and scaling-up solutions.
- Bring together a wide range of partners with capabilities in implementation, regulation, policy & legislation, research & learning, documentation & dissemination etc.
- Represent part of the bigger whole, and thus capture some of the organisational complexity - warts and all - that constitutes the day-to-day realities of the innovation system.
- Comprise partners who are typically clustered at different 'administrative' (e.g. national, regional, district) levels – *stakeholder platforms* – within the innovation system.
- Aim to identify and breakdown the barriers that constrain learning – both across platforms (i.e. *horizontally*) and between platforms (i.e. *vertically*).
- Promote flexible and adaptive working practices, and share responsibilities, costs and benefits.

### Membership of the learning alliance is

open to all individuals and organisations with an active interest in the post-harvest innovation system. Organisational members for Tanzania are to be found at the end of this document.

PHILA also has members in Zimbabwe where it is

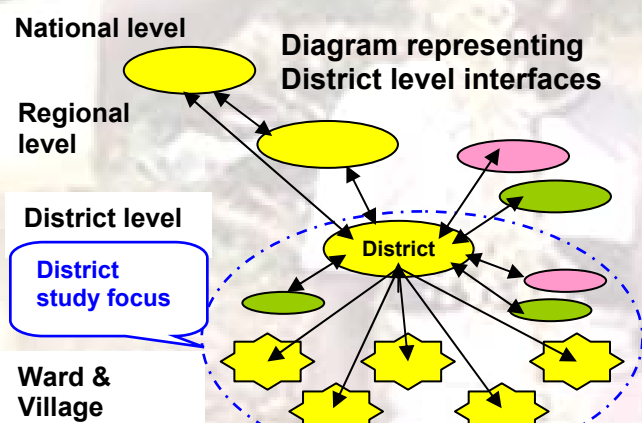


led by the University of Zimbabwe, and from the Natural Resources Institute, UK.

**Current activities** are focused on a number of initiatives to identify constraints and opportunities at the supply-utilisation interface associated with the *responsiveness* of service providers and with the expression of *demand* by farmers. These will involve case studies to examine the relationships between public sector service provision and research, and to compare the experiences of public service providers with that of farmer-centred organisations. It is also proposed to host two district-focused workshops in Singida and Manyoni districts, which were chosen by alliance

members during the project inception workshop at Sokoine University of Agriculture. These will share and explore the different realities experienced by diverse stakeholders (farmers, extension staff, district officials, NGOs, researchers, etc).

To better understand demand-side issues, the alliance will introduce local extension staff to an enquiry tool that was developed during the earlier DE project (see Box), which promotes a 'learning to listen and listening to learn from farmers' approach. While it allows for the systematic collection of information, it is based on inviting farmers to tell their own stories. Exchange visits of farmers (and frontline extension staff) between villages will be initiated, to develop better understanding of how farmers learn from each other; and a study of different in-



country *empowerment* initiatives will be undertaken to see if there are any transferable lessons for amplifying farmers' voices and establishing more demand-led services.

The Post-Harvest Innovation project was 'spawned' by the earlier DE project: Farmers' demands for better grain storage options (see Box) to preserve stocks during the 'hungry period', gave rise to the proposition that diatomaceous earths<sup>i</sup> (DEs), which have multiple applications in the developed world, might too be used as grain protectants under small-scale farming systems in sub-Saharan Africa.

**The DE Project:** Research trials were conducted in three regions of Tanzania (Shinyanga, Dodoma, Manyara) and in three districts of Zimbabwe (Buhera, Binga and Harare), to test and compare the efficacy of a number of different grain protectants (including African DEs) at protecting grain from insect damage during storage. These comparative tests have been run for three consecutive 10-month storage seasons during 2002-2005. Treated commodities include maize, sorghum, beans and cowpeas. Research and extension staff and the participating farmers were favourably impressed with the efficacy of the DEs.

During the second and third years of the project farmers tested the DE, Protect-It, in their own homes. The project team worked with these farmers to learn not only about the effectiveness of DEs under farmer management but also to explore what factors influence different farmers' post-harvest decision-making.

Relatively little information was available on post-harvest decision-making and so the team developed a methodology for learning how different households access and share storage knowledge and what storage practices they deploy.

Those farmers who have been involved in using DEs would like to be able to purchase and use these effective grain protectants. The Ministry of Agriculture and Food Security is keen to see these safe grain protectants available in Tanzania. The challenge now is for the private sector is to 'champion' their registration and develop this business opportunity, either through importation, distribution and marketing of commercial DE products or through exploitation of local DE deposits.

This initiative (and the preceding work on diatomaceous earths - DEs) is funded by the Crop Post-Harvest Programme of the UK Department for International Development (DFID) and the Ministry of Agriculture & Food Security, Tanzania.

Contact details for the PHILA project:  
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Please visit the PHILA website [www.nri.org/PHILA/](http://www.nri.org/PHILA/) and also the DE website [www.nri.org/de/](http://www.nri.org/de/)



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### Current Tanzanian membership includes individuals from the following organisations:

- Plant Health Services (MAFS)
- Post-Harvest Management Services (MAFS)
- Extension Services (MAFS)
- Tropical Pesticides Research Institute, MAFS
- Central Zone Research & Liaison Office (ZRELO)
- Department of Agricultural Education & Extension, Sokoine University of Agriculture
- INADES-Formation Tanzania
- PADEP (Participatory Agricultural Development and Empowerment Project)
- MVIWATA
- Livestock Production Research Institute (LPRI), Mpwapwa
- Singida Rural District Council
- Manyoni District Council
- Kongwa District Council
- CPP Project: "Developing crop protection research promotional strategies for semi-arid East Africa"

<sup>i</sup> Diatomaceous earths (DEs) are soft whitish powders formed from the fossils of tiny planktons which live in oceans, rivers and lakes. Ground to a powder these fossil deposits can be admixed with grain to kill insect pests. When DEs come into contact with insects they absorb the wax from the skin of the insect, causing dehydration and death. DEs have extremely low toxicity to mammals and are very safe to mix with food.