



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: (i) distinguishing between the needs and priorities of different households, (ii) exploring farmers' own research capabilities, or (iii) 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. changing livelihood scenarios, trade liberalisation, HIV/AIDS, climate etc.). There is also more recognition of 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 harvesting, storage, processing (both primary and secondary) 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*.

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 Zimbabwe are found at the end of this document. PHILA also has members in Tanzania where it is led by the Ministry of Agriculture and Food Security, and from the Natural Resources Institute, UK.

What is a Learning Alliance?

- A group of individuals or organisations with a mutual interest in solving an underlying problem and scaling-up solutions.
- A Learning Alliance (LA) brings together a wide range of partners with capabilities in implementation, regulation, policy & legislation, research & learning, documentation & dissemination etc.
- A LA represents 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.
- LAs comprise partners who are typically clustered at different 'administrative' (e.g. national, regional, district) levels – *stakeholder platforms* – within the innovation system.
- LAs aim to identify and breakdown the barriers that constrain learning – both across platforms (i.e. *horizontally*) and between platforms (i.e. *vertically*).
- LAs promote flexible and adaptive working practices, and share responsibilities, costs and benefits.
- PHILA is one such an alliance, initially with mutual interest in addressing post-harvest problems, but can be extended to other disciplines.

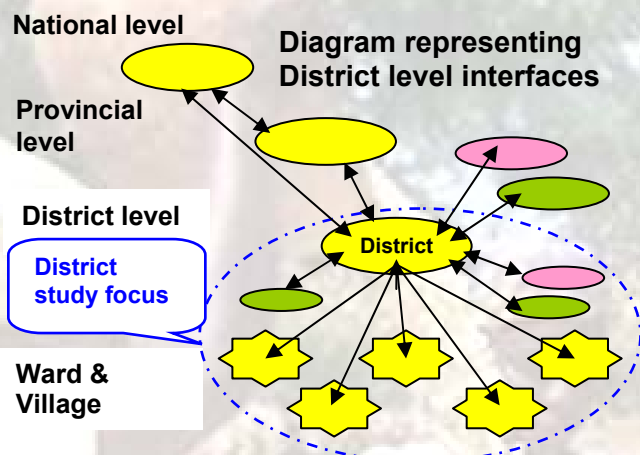
Current activities are focused on a number of initiatives to identify constraints and opportunities at the supply-utilisation interface associated with the *responsiveness* of service providers and with the expression of *demand* by farmers. These involve case studies to examine the relationships between public sector service provision and research, and to compare the experiences of public service providers with that of farmer-centred organisations. Two workshops have been held in Binga and Buhera districts to explore with diverse district stakeholders the provision of post-harvest services – past, present and potential - in the



respective districts, and to initiate an inclusive process for drawing up strategies for improving local post-harvest service provision.

The workshops facilitated sharing and exploration of the different realities experienced by diverse stakeholders (farmers, extension staff, district officials, NGOs, researchers, private sector, etc).

To better understand demand-side issues, the alliance introduced 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. 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 for the 'hungry period', gave rise to the proposition that diatomaceous earths (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: Diatomaceous earths (DEs) are soft whitish powders formed from the fossils of tiny marine and fresh water planktons. When DEs are admixed with grain and come into contact with insect pests 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.

Research trials were conducted in three regions of Tanzania (Shinyanga, Dodoma, Manyara) and in three districts of Zimbabwe (Buzura, 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 up to 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 called 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 farmers' 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 Ministries of Agriculture in the two countries are keen to see these safe grain protectants available to farmers. The challenge now is for the private sector to 'champion' their registration and develop this business opportunity, either through importation, distribution and marketing of commercial DE products or through exploitation and marketing of local DE deposits. Two private companies have already found the latter option to be more economically attractive and expressed their documented interest in developing products based on local DEs.

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Please also visit the Projects websites:
Diatomaceous Earths: <www.nri.org/de/>
Post-Harvest Innovation Learning Alliance (PHILA):
<www.nri.org/PHILA/>(under construction)

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Organisations which have been represented at PHILA workshops held in Zimbabwe include:

- Dept. of ARES (Extension-District & Head Office), MARD
- Plant Protection Research Institute (PPRI)
- Dept. of Agricultural Engineering & Technical Services, (MARD), Head Office, Provincial & District level
- Zimbabwe Farmers Union (ZFU), Head Office, Provincial & District level
- Kulima Mbobumi Training Centre, (KMTC), Binga District
- Dept. of Soil Science & Agricultural Engineering, University of Zimbabwe (UZ)
- Dept. of Sociology, UZ
- Development Technology Centre, UZ
- Dorowa Minerals Limited, Dorowa
- Save the Children-UK, Binga District
- Catholic Relief Services (CRS); Harare
- ECOMARK Ltd, Harare
- Grain Marketing Board, Buzura District
- Min. of Information & Publicity, Binga & Buzura Districts
- Min. of Education, Sport and Culture, Buzura District
- Min. of Health and Child Welfare, Binga & Buzura Districts
- Min. of Local Government, Binga & Buzura Districts
- Min. of Youth Development & Employment Creation, Binga District
- Rural District Councils (Binga and Buzura Districts)
- Ntengwe, Binga District
- Stockists, Binga District
- Heifer Project International (HPI), Binga District
- Catholic Development Commission (CADEC), Binga District
- Farmers, Binga & Buzura Districts
- Development Technology Centre (DTC), UZ
- African Centre for Fertiliser Development (ACFD), Harare