

CROP POST HARVEST PROGRAMME

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

R8460 (ZB0377)



PROJECT FINAL REPORT

15th January 2005 – 31st January 2006

Post-Harvest Innovation Learning Alliance (PHILA)
Tanzania and Zimbabwe

Mike Morris¹, Brighton Mvumi², Tanya Stathers¹ and William Riwa³

¹Natural Resources Institute, UK

²Department of Soil Sciences and Agricultural Engineering,
University of Zimbabwe, Zimbabwe

³Plant Health Services, Ministry of Agriculture and Food Security,
Tanzania

Core Partners: PHILA organisational membership

Tanzania

- Plant Health Services, MAFS
- Post-Harvest Management Services, MAFS
- Extension Services, MAFS
- ASDP Secretariat, MAFS
- Tropical Pesticides Research Institute, MAFS
- Central Zone Research & Liaison Office
- Department of Agricultural Education & Extension, Sokoine University of Agriculture
- INADES-Formation Tanzania
- Participatory Agricultural Development and Empowerment Project
- MVIWATA
- Livestock Production Research Institute, Mpwapwa
- DALDO & Singida Rural District Council
- DALDO & Manyoni District Council
- DALDO & Kongwa District Council
- CPP Project: "Developing crop protection research promotional strategies for semi-arid East Africa"
- Tanzania Food and Nutrition Centre
- Department of Policy and Planning, MAFS
- President's Office, Regional Administration and Local Government, Dodoma

Zimbabwe

- Dept. of Agricultural Research and Extension (Extension-District & Head Office), MARD
- Plant Protection Research Institute
- Dept. of Agricultural Engineering & Technical Services, (MARD), Head Office, Provincial & District level

- Zimbabwe Farmers Union, Head Office, Provincial & District level
- Kulima Mbobumi Training Centre, 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, Harare
- EcoMark Ltd, Harare
- Grain Marketing Board, Buhera District
- Min. of Information & Publicity, Binga & Buhera Districts
- Min. of Education, Sport and Culture, Buhera District
- Min. of Health and Child Welfare, Binga & Buhera Districts
- Min. of Local Government, Binga & Buhera Districts
- Min. of Youth Development & Employment Creation, Binga District
- Rural District Councils (Binga and Buhera Districts)
- Ntengwe, Binga District
- Stockists, Binga District
- Heifer Project International, Binga District
- Catholic Development Commission, Binga District
- Farmers, Binga & Buhera Districts
- Development Technology Centre, UZ
- African Centre for Fertiliser Development, Harare

A list of acronyms can be found at the end of this report.

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Project Final Report

Section A Executive Summary

What is the underlying problem? Conventional approaches to technology transfer within small-scale farming systems have frequently failed. Household food security remains precarious for large numbers of people in the rural areas of Tanzania and Zimbabwe and food production levels show little or no increase.

Hitherto post-harvest service provision and research have focused on technology development, with less attention being given to understanding delivery system constraints, distinguishing between the needs and priorities of different households, or exploring farmers' own research capabilities. Recent approaches to scaling-up technologies – products and processes – point to its dependence on the activities and interactions of a diversity of key players and organisations, and place emphasis on *doing things differently* to overcome institutional constraints. Knowledge is viewed as a process of learning, characterised in the innovation system context, by effective relationship and communication to overcome institutional barriers.

What did the project do and how did it operate? Project partners adopted a multi-stakeholder *learning alliance* (LA) approach: key post-harvest stakeholders from all sectors (public, private, voluntary) formed a learning alliance with the same strategic aims as the project – better mobilisation of national innovation systems to sustain the uptake and adoption of post-harvest knowledge for the benefits of poor farmers - but set the specific challenge of exploring better ways of working and learning together.

Core activities of the *Post-Harvest Innovation Learning Alliance* (PHILA) were: collaborative research initiatives; internal information-sharing (with an emphasis on ICTs), and; engagement with other influential players in the post-harvest system. Case studies critically examining current service-provision practices, farmer-demand mechanisms, and the bearing of current policies, their formulation and implementation dynamics, on post-harvest situations, were commissioned in the two countries. Insights from the LA process and the case studies are currently being used to generate practical guidelines and policy recommendations for wider in-country post-harvest knowledge management.

Inception workshops were used to promote and launch the learning alliance, and final review workshops provided opportunities for further engagement, sharing of the case study findings, and consolidating learning. By commissioning diverse members to implement pivotal collaborative research, or through their more general collaboration or participation in these studies, PHILA sought to raise awareness and extend the individual and organisational capacity of its members. The research case studies, which focused on the interface of post-harvest supply and demand, also involved and benefited other potential end-users who were not necessarily PHILA members.

What contribution has the project made?

- PHILA has provided a safe and effective space for diverse key individual stakeholders from multiple organisations within the national innovation systems to work and learn together, and improve inter-organisational relationships.
- PHILA has promoted recognition of the diversity of rural circumstances and livelihoods, to ensure that service provision is more responsive in meeting the needs and priorities of different groups, including poorer individuals and households.
- PHILA has actively sought to share all its findings on enhancing post-harvest performance at the interface of supply and utilisation with key players in the national innovation systems; and PHILA itself provides a living legacy to continue and consolidate this work through its expanding membership, and the PHILA website <<http://www.nri.org/PHILA/>>.

Section B Identification and design stage

The purpose of the Post-Harvest Innovation Project, and the means by which it aims to reduce poverty, is to generate and promote new ideas as to how the national innovation systems in Tanzania and Zimbabwe can be better mobilised to sustain the uptake and adoption of crop post-harvest knowledge for the benefit of poor farmers.

Conventional approaches to technology transfer within small-scale farming systems have frequently failed. Household food security remains precarious for large numbers of people in the rural areas of Tanzania and Zimbabwe and food production levels show little or no increase.

While perceptions of the underlying causes are generally shared, post-harvest service provision and supporting research initiatives have tended to focus on the development of new technologies, with less attention being paid to distinguishing between the needs and priorities of different households, to exploring farmers' own research capabilities, or to understanding delivery system constraints.



This well-documented scenario corresponds with the experience of the project management partners, who have had considerable involvement in agricultural research in sub-Saharan Africa¹, and specifically in the development of new technologies intended to improve poorer farmers' livelihoods. Their experience reveals that even where problem diagnosis has taken account of rural diversity and technical solutions are not monolithic, their up-take is frequently thwarted by unforeseen factors. These factors may be related to household circumstances (e.g. vulnerability, lack of voice, poor access to and mix of resources) or to wider institutional issues² (e.g. poor input markets, inter-organisational transaction costs, inadequate staff incentives, information barriers and ICT skews, product registration procedures).

More recent approaches to improving the impact of research and development not only place greater emphasis on the rapidly changing socio-economic, political and environmental contexts (e.g. civil service reform and decentralisation, deterioration of agricultural services, changing livelihood scenarios, trade liberalisation, HIV/AIDS, climate change), but also 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 – together referred to as the innovation system (Hall *et al.*, 2004). 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*. It is argued that emphasis needs to be placed as much, or more, on learning patterns and the part played by relationships, communication and context, as on the knowledge associated with given technologies (Pasteur and Scott-Villiers, 2004).

¹ This includes contributions to the following DFID funded projects. R7034: Grain storage pest management using inert dusts (CPHP); R7442: Improvements in the storage and marketing quality of legumes (CPHP); R7805: Understanding household coping strategies in semi-arid Tanzania (NRSP); R7806: Human and social capital's role in natural resource management in Tanzania (NRSP); R8179: Small-scale farmer utilisation of diatomaceous earths during storage (CPHP); R8265: Improving household food security by widening the access of smallholder farmers to appropriate grain store pest management (CPHP); R8458 & R8167: Expansion of sustainable sweet potato production and post-harvest management through farmer field schools in East Africa and sharing of the lessons learnt during the pilot schools (CPP); R8422, R8406 & R8220: Improving farmers and others stakeholders access to quality information and products for pre- and post-harvest maize systems management in the Southern Highlands of Tanzania (CPP & CPHP).

² 'Institutions' in this context refer to the "mechanisms, rules and customs by which people and organisations interact with each other (i.e. the rules of the game)".

Rising to this broader challenge requires a different approach from that either found in conventional relationships between state, voluntary and private sectors players, which are often characterised by distrust, fragmentation and short-termism, or permitted by short-term projects with 'stop-go' funding regimes.

To this end the management partners proposed that the project adopt a *learning alliance* (LA) approach: key post-harvest stakeholders from all sectors (public, private, voluntary) would be invited to form an alliance with the same strategic aims as the project but set the specific challenge of exploring better ways of working and learning together (see Box 1).

The main activities of the learning alliance (which was to be named the *Post-Harvest Innovation Learning Alliance* or PHILA for short) would be collaborative research, information-sharing, and engaging with and influencing other (i.e. external) key players in the post-harvest system. Such an approach would provide both a practical means for implementing the project activities and a way of realising the strategic aim of exploring and improving the institutional dynamics of the agricultural innovation system. Once established moreover, the alliance would provide the on-going means to ensure delivery and consolidation of the project purpose over time; something otherwise unlikely to happen within the short project time-frame. The underpinning proposition was as follows:

- That undertaking (action) research within an alliance of practitioners, researchers, policy makers and activists will lead to greater impact and facilitate scaling-up through, amongst other things, development of broader ownership of concepts and process, enhancement of local capacity (particularly for adaptive management), and the emergence of locally appropriate solutions or innovations”.

Box 1. Characteristics of Learning Alliances

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 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, share responsibilities, costs and benefits.

Based on: Moriarty et al. (2005)

In addition to seeking to bring about change in the dynamics of the national agricultural systems – an *enabling* approach to poverty reduction – it was also anticipated, that specific collaborative research initiatives would lead to the identification of constraints and opportunities at the post-harvest interface of supply and demand. Sets of case studies would be commissioned to critically examine current service-provision practices, farmer demand mechanisms, and the bearing of current policies, their formulation and implementation dynamics, on post-harvest situations. Insights from these studies could be used to generate practical guidelines and policy recommendations for in-country post-harvest knowledge management, which when enacted would facilitate a more equitable or *inclusive* approach to addressing rural poverty. These collaborative research activities were channelled by the following propositions:

- That current practice in statutory post-harvest service provision and supporting initiatives are failing to distinguish between the need and priorities of different households and therefore failing to meet their diverse demands.
- That researchable constraints and opportunities exist at the current interface of supply and utilisation and the planned insights into these could help facilitate improvement in

terms of 'shaping' and delivery of post-harvest information by the range of PH knowledge management organisations.

Implementation of the project was to be structured around three multi-stakeholder workshops (in each country). The inception workshops would provide the main mechanism for promoting and launching the project's learning alliance – although some initial coalition building had already taken place – with subsequent workshops providing opportunities for consolidation. It was also intended that the workshops would serve as fulcrums for the introduction, interactive development, and review of the specific research case studies, and that they would facilitate progressive engagement with post-harvest stakeholders in the national agricultural system.

The potential end-users cited in the project memorandum included all stakeholders formally involved in post-harvest knowledge management, and they were identified using a matrix which juxtaposed operational levels (i.e. village & ward; district & municipalities; zonal, regional or provincial; national, and; international) against functional types (i.e. political authorities, policy makers, public service providers, legal & regulatory authorities, private sector operators, voluntary sector, and research).

The relationship of the project with different end-user groups has been determined by the learning alliance approach in general – LAs are a microcosm of the whole system – and PHILA's activities in particular, and by the focus of the research activities which was predominantly at the district level. It was felt that study of the interplay of service provision and farmer-demand, issues of effectiveness and sustainability, the processes of decentralisation etc. would prove most insightful within the limited resources³ if focused at the district level. Two districts, exhibiting contrasting characteristics, were accordingly identified and selected in both countries. In Tanzania this choice was bounded by the decision to work somewhere in the central semi-arid regions of Dodoma and Singida, where complementary initiatives already existed; and Manyoni and Singida districts were selected by participants – PHILA novitiates – at the inception workshop. In Zimbabwe the choice was restricted for ease of operation and logistical reasons to the two districts in which the parent projects (R7034 & R8179) had already been working, Buhera and Binga districts.

The means of engagement with end-users has been through PHILA's collaborative research, internal information-sharing or strategic engagement activities. By commissioning diverse members to implement collaborative research, or through their more general collaboration or participation in these studies, PHILA has sought to raise awareness and extend the individual and organisational capacity of its members. The research case studies, which focused on the interface of post-harvest supply and demand, also involved other potential end-users who while not PHILA members will have benefited from their involvement (e.g. case study 6: farmers involved in the exchange visits; case study 3: district councillors and administrators participated in the district workshops). Table 1 identifies the many end-users who were involved in PHILA's case studies, and the roles they played.

PHILA has also worked on a strategy for *engagement* with key external stakeholders who may be relevant to operationalising findings and having wider impact, and with whom PHILA needs to build and foster relations (see the strategic planning section of the PHILA review workshop proceedings, Annex III). PHILA members have already and spontaneously been involved in strategic engagements with a range of end-users, and these interactions have been recorded in the PHILA assessment exercises undertaken at the review workshops in both countries. These not only involved exchanges (e.g. briefings, reports, articles) with colleagues, and with groups or individuals in a range of other organisations (e.g. district councillors, zonal researchers, national and international NGOs), but also the successful transference of approaches, tools and techniques that PHILA has introduced. Engagement with end-users through more traditional information-sharing activities has also been effected

³ Following a month's delay in the signing of the contract and by the time that funds were available to managing partners in the South, less than 10 months remained to complete a complex action-research oriented project founded on and trialing multi-stakeholder processes.

through the planned workshops, and through regular and frequent conventional (e.g. notes, reports, bio-data) and electronic communications (i.e. e-mails, phone calls and text messages, website). In addition to these predominantly internal exchanges, the majority of which flowed from or through the management team, the PHILA website <<http://www.nri.org/PHILA/>> will shortly publish a series of key briefing notes, and is also being promoted and linked to other key websites.

Table 1. End-users engagement in PHILA's collaborative research (case studies)

CS sets	Collaborative research	PHILA implementing team	PHILA collaborators and/or action-research participants	
Service provision case studies (CSs)	Case Study (CS)1: Analysis of the interface between PH service provision and public research (Tanzania only).	F Magayane (SUA) & E G Rwambali (SUA)	ARI Ilonga ARI Selian IPM Tengeru MCM-Marketing	MAFS-PHS MAFS-CPS MAFS-FSD SIDO
	CS2: Interface and comparative analyses: public service providers & farmers; farmer-centred organisations & farmers.	J Mwanga (NALRS) & P Lameck (INADES-Tz)	SEMA (FCO, Singida) CARITAS (FCO, Singida) ATTT (FCO, Manyoni) MVIWATA (FCO, Morogoro) INADES (FCO, Dodoma) DALDOs (PSPs, Singida & Manyoni) DCDOs (PSPs, Singida & Manyoni) Makutupora Research (PSP, Dodoma) Farmers (Ikiwu, Mpambaa & Unyankanya villages, Singida; Masgati & Msemembo villages, Manyoni)	
		<i>M Muchemwa (DAETS) & P Zaba (DAETS)</i>	<i>NFN (FCO, Buhera)</i> <i>ZFU (FCO, Buhera & Harare)</i> <i>Farmers (Wards 4 & 5, Buhera)</i> <i>GMB (quasi PSP, Buhera)</i> <i>DAEO/AEO/AEW (PSPs Buhera)</i> <i>DAE (PSP, Buhera)</i> <i>PAE (PSP, Manicaland)</i> <i>Directorate (AREX, DAETS) (PSPs)</i> <i>CRS (FCO, Harare)</i> <i>Training Branch (PSP, Harare),</i> <i>Farm Management (PSP, Harare)</i> <i>Agronomy Institute (PSP, Harare)</i>	
	CS3: District nodal studies: Singida and Manyoni, Tanzania; <i>Buhera and Binga, Zimbabwe.</i>	PHILA Management Team (MT) G Rwabufigiri (Zonal PHS) B Mjawa (PHMS) D Mathias (PHMS) P Lameck (INADES-Tz) B Manento (DALDO, Singida) S Sengo (DPPO, Singida) E Njao (DPPO, Manyoni) F Mnkabenga (DCO, Manyoni)	Singida district: District council, RAA, DC, DPO, DED, DALDO, DPPOs, ZRELO, DCO, DEO, Coop Off, Trade Off, PADEP, SEMA, TCCIA, HAPA, INADES, SACCOs, VICOBA, FDC, Coop College, Radio Tanzania, Television Tanzania, WAEOs, Traders, Agro-input stockists, Farmers Manyoni district: DC, DED, DALDO, DAS, DCO, DEO, PPO, ZRELO, WAEOs, Farmers, Agro-input stockists, traders, prisons, nursing college.	
PHILA Management Team (MT) <i>V Moyo (DAEO, Binga)</i> <i>T T Mapanda (AEO, Binga)</i> <i>D Matsvange (Livelihood Co-ordinator SC UK)</i> <i>L Mutale (Agric Trainer, KMTC)</i> <i>T Ngoma (Agric Trainer, KMTC)</i> <i>N Mhazo (Researcher, UZ)</i> <i>Z Soroti (Horticulturist, CRS)</i> <i>A Mugwati (AEO, Binga)</i> <i>J Mushayapokuvaka (DAEO, Buhera)</i> <i>B Musendo (A/DAE)</i> <i>K Mushore (PPRI)</i>		<i>Binga district:</i> <i>DA, CEO, DAEO, AEO, AES, DAETS, AEWs, CAMPFIRE, Ntengwe (CBO), SC UK, ZFU, Council Chairman, MYDEC, PPRI, KMTC, Ministry of Information & Publicity, Heifer Project International, CADEC, Ministry of Health & Child Welfare, ZESA, Agro-Input stockist.</i> <i>Buhera district:</i> <i>DA, DAEO, AEO, DAETS, AEWs, RDC, PPRI, Ministry of Information & Publicity, Ministry of Health & Child Welfare, Dorowa Minerals Ltd, GMB, Asst. District Administrator, Ministry of Education & Culture, CRS, ZFU.</i>		
CS4: Exploring empowerment initiatives.	B Mjawa (PHMS) R Minja (Mikocheni ARI) D Mathias (PHMS)	TASAF PADEP MVIWATA	UKUN INADES MCOBA	

		<i>Z Soroti (CRS)</i> <i>H Zheke (CRS)</i>	<i>Campfire</i> <i>Musasa Project</i>	<i>CRS Farmer field schools</i> <i>FACHIG</i>
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Demand-side case studies	CS5: Household enquiry visits: learning to listen, and listening to learn.	W Riwa (PHS) P Makuyu (VAEO, Mlali) ? Temu (VAEO, Mlali)	B Manento (DALDO, Singida) 2 DPPOs Singida 4 WAEO Singida	1 DPPO Manyoni 1 DEO Manyoni 2 WAEO Manyoni
	CS6: Farmer and frontline extension staff exchange visits (Tanzania only).	T Stathers (NRI) W Riwa (PHS) B Manento (DALDO, Singida) S Sengo (DPPO, Singida) E Njao (DPPO, Manyoni) K Kasijili (Dept of Extn) M Simbeye (FEPU) J Mika (ZCO, Dodoma)	10 Singida district farmers (2 wealthy, 5 medium, 3 poor; 5 male, 5 female) 4 WAEOs Singida district 2 DPPO Singida district DALDO, Singida district 10 Manyoni district farmers (2 wealthy, 4 medium, 4 poor; 5 male, 5 female)	2 WAEOs Manyoni district DEO Manyoni district DPPO Manyoni district DALDO (Acting) Manyoni district ZRELO, Central Zone 2 WAEOs Kongwa district DSMS Kongwa district Mlali village farmers
	CS7: Interface analysis of commercial enterprises with public service providers and research (Tanzania only).	F Magayane (SUA) & E G Rwambali (SUA)	Twiga Chemicals SAPA Chemicals ByTrade TFA	TPRI MAFS-PHS
Policy desk studies	CS8: Reviewing policy & associated processes to better understand the implications for PH practice.	S Semgalawe (Policy & Planning, MAFS) J Ngirwa (Policy & Planning, MAFS) <i>BT Hanyani-Mlambo (African Institute of Agrarian Studies/UZ)</i> <i>GD Mudimu (UZ)</i> <i>R Jera (Safire)</i> <i>T Dube (Ministry of Agriculture)</i>	Department of Policy and Planning, MAFS	
	CS9: The agro-processing industry: opportunities & constraints for small-scale farmers? (<i>Zimbabwe only</i>)	<i>N Mhazo (UZ)</i> <i>B Mvumi (UZ)</i> <i>RM Nazare (UZ)</i> <i>E Nyakudya (UZ)</i>		

Tanzanian contributors in upright font; *Zimbabwean entries in italics*; For an explanation of acronyms go to the very end of the report.

Section C Research Activities

Output objective 1. Institutional learning and change: *to advance improvements in understanding and effectiveness of ‘learning alliances’ (LAs) as agents of change.*

The learning alliance approach was conceived both as a specific vehicle for addressing the institutional learning and change output objective and as the main approach to implementing the project, which was to be structured around three multi-stakeholder workshops (in each country). The workshops were collectively to be the *chassis* for the alliance, and individually the fulcrums for the introduction, interactive development, and review of the specific research case studies. The research activities associated with this output, and presented here quarter by quarter, inevitably touch on the activities associated with the other outputs.

First Quarter: mid-January to mid-April

First form your Learning Alliance: The inception workshop in Tanzania was held at the Institute for Continuing Education (ICE), Sokoine University of Agriculture (SUA), Morogoro, during the period 15th – 17th March. It was attended by 21 participants representing partners from Tanzania (Plant Health Services, Post-Harvest Management Services, Extension Services, Tropical Pesticides Research Institute, Zonal Research Extension Liaison Office, Sokoine University of Agriculture, Participatory Agricultural Development and Empowerment Project, 4 District Councils, and INADES-formation Tz), Zimbabwe (University of Zimbabwe, Zimbabwe Farmers’ Union), and the UK (Natural Resources Institute). These represented

the majority of the participants identified at the proposal stage, with the exception of stakeholders from the private sector, sub-district levels, and other sectors.

The postponement of the workshop, which had been planned for mid-February, stemmed from delays in the issuing of the contract and knock on effects in the disbursement of funds, and their receipt by the project managers in Tanzania and Zimbabwe. The effect of the delayed start continued to impact all subsequent activities.

The workshop was used to introduce participants (or re-introduce those individuals who had been involved in the original proposal writing) to the project memorandum and its underlying rationale. With respect to learning alliances the central proposition is that bringing about change in the way the main players in national agricultural systems work and relate is key to improving development impact, and that the learning alliance approach is one way to effect the necessary institutional learning and change. The concept of innovation systems (IS) and principles of the learning alliances approach were shared and developed through presentations, plenary discussions and group work. Participants also engaged in exercises to explore their organisational match with project aims and the LA approach, based on the following questions:

- is there a shared understanding of the problem being solved?
- are your organisation's interests in line with those of the project?
- what capacities/capabilities would your organisation bring to the project?
- would your organisation benefit from being a partner in the learning alliance?

Comprehensively favourable responses to these questions signalled the effective establishment of the Post-Harvest Innovation Learning Alliance (PHILA), an identity which subsequently displaced reference to the project by name. Participants identified the project outputs (institutional learning and change, knowledge management, demand and utilisation, policy and implementation studies) which most related to the remits of their organisations, and indicated specific interest in one or more of the associated case study activities. These expressions of interest were subsequently used to guide the commissioning of the case studies.

Proceedings of the inception workshop were drafted and circulated, with special attention being given to documentation of the process. The report, which is detailed in Annex III, is also available on the project website.

Other related activities carried out in this quarter included the development of a paper by the management team for presentation at the Learning Alliance Symposium being hosted by IRC⁴ and UNESCO-IHE LA, in Delft, June 2005. Complementarities and opportunities to work with CPHP Project R8422, *'Improving farmer and other stakeholders' access to quality information and products for pre- and post-harvest maize systems management in the Southern Highlands of Tanzania*, and with CPP Project R8349, *'Improving agricultural communication strategies to meet farmers' crop protection needs in the semi-arid Central Zone of Tanzania'*, were explored and developed.

Second Quarter: mid-April to mid-July

Three of the management team attended the Delft Learning Alliance Symposium, and presented the paper, 'Post-harvest innovation to improve food security in Tanzania and Zimbabwe: Learning alliance lessons'. The symposium was attended by over 100 participants from 30 countries, and PHILA's paper has since been published on the IRC website <http://www.irc.nl/page/24792/offset/10>. The paper, which draws on the challenge of scaling-up the findings of the earlier work on diatomaceous earths (DE) within the respective national PH innovation systems, suggests a framework for mapping institutional change and learning, and identifies areas of success for the nascent PH learning alliances in Tanzania and Zimbabwe.

⁴ The International Water and Sanitation Centre

PHILA established in Zimbabwe: The parallel inception workshop, which was held in Harare, Zimbabwe, from 10th – 12th May, was attended by 23 participants representing partners from Zimbabwe (Department of Agricultural Research and Extension - Crop Production Branch, Training Branch, Planning Branch, District Offices; Agricultural Engineering and Technical Services; Catholic Relief Services; Save the Children UK; Kulima Mbobumi Training Centre; Zimbabwe Farmers Union - Head Office, Provincial and District (Buhera) levels; African Centre for Fertiliser Development; University of Zimbabwe; Crop Post-Harvest Programme and EcoMark Ltd) and Plant Health Services, Tanzania; and the Natural Resources Institute of UK. The workshop followed the same format as in Tanzania, and participants were happy to endorse the launch of PHILA in Zimbabwe, and also indicated their specific interests in one or more of the proposed case studies. Proceedings of the workshop were similarly drafted and circulated, with special attention being given to process documentation, and are detailed in Annex III or available from the project website.

Other relevant activities included the production and distribution of PHILA flyers, both general and specific to Tanzania, and the development and circulation of the terms of reference (TOR) for the multiple case studies. The TOR were electronically circulated amongst PHILA members (with e-mail access) with the intention not only of sharing the information and ideas but also of seeking improvements (in the TOR) and promoting opportunities for active participation in the case studies.

One significant change to the activity sets associated with this output, was the decision to switch the focus of the mid-term workshops from the planned opportunity for sharing and assessing the progress of the various case studies, as part of an in-house learning process, to becoming the vehicle for undertaking the district nodal case studies (case study 3, output 2). This was a pragmatic decision. Not only was the commissioning of the case studies taking longer than anticipated, at the Tanzanian workshop, the membership had suggested a more participatory approach for the institutional analyses of the district nodes than was mooted in the project memorandum. Preparation now was for multi-stakeholder workshops to be held in the two selected districts in both countries, the first to be held in Singida in late July.

Third Quarter: mid-July to mid-October

Two-day long mid-term workshops, now re-jigged to meet the requirements of the district nodal studies, were held in each country in this quarter. In Tanzania as follows: Singida district from 28th – 29th July; Manyoni district from 2nd - 3rd August; in Zimbabwe: Binga district from 21st - 22nd September; Buhera district from 3rd - 4th October. Details of these district workshops can be found under the research activities for output 2.

The management team worked on the development of a framework for the systematic review of the LA process, and preparation for a questionnaire for its members was begun.

The project's final workshop – the PHILA review workshop – in Tanzania was scheduled for 23rd – 25th November 2005, in Morogoro. The parallel workshop in Zimbabwe was planned for the week commencing 12th December 2005. Preparatory administration commenced and an outline plan (TOR) for the workshops was initiated.

The management team drafted and displayed a poster paper at the DFID workshop, *Knowledge is the Key to the Future: Improving the productivity of Smallholder Farmers in Southern Africa*, which was held in Harare, Zimbabwe, in September. The workshop was attended by 111 national and international participants, mainly from SADC countries, but also from Uganda, Kenya and the UK. The poster, '*Doing things differently: Technical and institutional options for Post-Harvest Innovation*', was in keeping with one of the thrusts that emerged from the workshop, which suggested multi-stakeholder approaches were key to having impact.

The district workshops served to prompt the management team into actively acknowledging the importance of modern information and communication technologies (ICTs) and associated training inputs (e.g. materials, instruction, funding & hardware), to the effective

working of the LA. Members were encouraged to establish e-mail addresses and informed that the use of internet cafes for PHILA business would be refunded by the project. An outline design for the PHILA website was identified and initial copy generated. This is presently being facilitated by NRI, but it is intended that in-country organisations take over the website in the near future.

Fourth Quarter: mid-October to mid-January



The project's final workshop – the PHILA review workshop – for Tanzania was held at the Muslim University of Morogoro, Morogoro, during the period 23rd – 25th November. It was attended by 40 participants representing partners from Tanzania (Plant Health Services, Post-Harvest Management Services, Extension Services, Zonal Research Extension Liaison Office, ASDP Secretariat, Sokoine University of Agriculture, Participatory Agricultural Development and Empowerment Project, Tanzania Food and Nutrition Centre, 3 District Councils, MVIWATA, INADES-formation Tz,

and 5 farmers), Zimbabwe (University of Zimbabwe, AREX, Catholic Relief Services), Switzerland (the international NGO Intercooperation), and the UK (Natural Resources Institute).

Case study implementers presented their work – objectives, methodology, findings, lessons learnt – to the participants, who following clarification discussions, critically reviewed the studies in groups.

With respect to the learning alliance process, participants helped develop and completed a questionnaire to assess PHILA's performance in its key activities, and initiated strategic plans to secure PHILA's future.

In Zimbabwe a similarly formatted PHILA review workshop was held at the Mandel Training Centre, near Harare, from 13th – 14th December. It was attended by 40 participants, including from the public sector: ward and district level extension staff (5), rural district council (1), agricultural officers with national remits (6), and national researchers or scientists (4). Voluntary sector participants included: NGOs (4), farmer-centred organisations (3); private sector representation (1), Farmers (6); donor community (2); media (2); parastatal (1), and; consultants (1). Additional participants included a public sector researcher and PHILA member from Tanzania, and 2 members of the management team, one each from the University of Zimbabwe and the UK Natural Resources Institute.

Activities associated with outputs 2, 3 and 4: Collaborative research or the case studies

After the project inception workshops (mid-March in Tanzania, mid-May in Zimbabwe), the project management team, who already had been sharing ideas electronically on the nature of the different case studies needed to deliver the projects outputs, developed a series of draft TOR for each case study. Further iterative development of the TOR took place between the management team before agreed drafts were sent by the respective national managers to PHILA's membership, those individuals who had been present at the inception workshops (and had e-mail addresses). The general pattern was then that particular individuals, who had already expressed interest at the inception workshops and/or demonstrated a good grasp of the particular challenge, were identified or identified themselves, and were encouraged to draft proposals for particular case studies. The process typically involved face-to-face meetings with the management team and group discussions before commissions were awarded, and generally took several weeks.

Output objective 2. Knowledge management by service providers and supporting research: *To develop practical ‘insights’ from current working practices, and to generate ‘improved practice’ recommendations.*

Collaborative research planned to realise this objective involved three case studies:

Case Study 1. Analysis of the interface between public service provision and public research (Tanzania only):

The case study objective was to undertake a broad exploration of current and previous relationships, and projected trends, between public service provision and public sector research with the view of identifying opportunities and generating new ideas for improving the working of the national post-harvest innovation system in general, and service delivery for users in particular. As would be for all other case studies, the TOR for this study were drafted and circulated for comments among the project management team and after several iterations, a draft was circulated to members of PHILA for their comments and inviting them to express their interest in doing the study. The main task, as defined in the TOR was to get a broad picture of the nature and number of players, how they have and continue to relate to each other, and opportunities to improve these relationships. The approach was to take the form of an institutional analysis in which all stakeholder types would be identified, the nature of their relationships mapped (including previous PH research), and opportunities and gaps identified.

A proposal submitted by one PHILA member, Dr Magayane, lecturer at the University of Sokoine, Morogoro, Tanzania was discussed, improved and commissioned.

For reasons of efficiency – use of the same methodology and because public service providers feature also in case study 7 (Interface analysis of commercial enterprises and service providers), Dr. Magayane was contracted to undertake both case study 1 and 7. Dr Magayane was supported in this work by his colleague Mr Rwambali.

The research process included a literature review and interviews of relevant stakeholders using ‘windows’ from the RAAKS toolbox.

Stakeholders interviewed in the study were from the following types of organisations: 2 zonal agricultural research institutes (ARIs); 4 agro-chemical companies; 4 policy and implementation sections of ministries (PHS, CPS and FSD for MAFS; Marketing for MCM); the Tropical Pesticides Research Institute (MAFS); the Small Industries Development Organisation (SIDO); and the Pest Control Services, Tengeru, Arusha.

The case study was presented (objectives, methodology, findings, lessons learnt) and discussed at the PHILA November review workshop, and the authors are currently revising their report to accommodate points made during the review.

Case Study 2. Interface and comparative analyses: public service providers & farmers; farmer-centred organisations & farmers (Tanzania and Zimbabwe):

The objectives of this case study were to develop insights from a comparative study of the working practises of public service providers (PSPs) and those of farmer-centred organisations (FCOs) in addressing the post-harvest – storage, processing and marketing – needs of farmers. These findings could then be used to generate recommendations for better practice, which taken together with the outcomes of the other case studies would hopefully contribute to improving the effectiveness of the national post-harvest innovation system. It was expected that the approach would be participatory, action-research oriented, and involving action-reflection cycles that allow for participants and other alliance members to make contributions to and benefit from the learning process.

In Tanzania the work was undertaken by Mr J. Mwangi (NALRS) and Mr P. Lameck (INADES-Tz). The case study focused on Manyoni and Singida districts incorporating information collected during the district workshops (case study 3) to identify the range of PSPs and FCOs, before selecting which of them to concentrate on. Semi-structured

interviews were used to collect background information on each of the selected PSPs and FCOs. Focus group discussions (FGDs) and Venn diagramming exercises were undertaken with groups of farmers, disaggregated by wealth, from those villages where the PSPs and FCOs worked. This information was used to corroborate the information obtained from the semi-structured interviews. Direct observation was also used to verify the data and substantiate the analysis.

The conceptual framework used to represent 'organisations' for the purpose of comparison, was based on a 'being', 'doing' and 'relating' model. *Being* encompasses the leadership, vision and mission of an organisation. *Doing* relates to the core tasks of that organisation, including approaches, methods, strategies etc. *Relating* involves the way the organisation communicates and interacts with external stakeholders. Information on these three components was collected for each of the PSPs and FCOs, compared and analysed.

Again the case study was presented (objectives, methodology, findings, lessons learnt) for review at the November workshop, and the authors have since revised their report to accommodate the review findings, and await on further comments from the management team.

A similar study has been carried out in Zimbabwe by Mr M Muchemwa (DAETS) and Mrs P Zaba (DAETS) in two wards of Buhera District, Manicaland Province. The PSPs selected for the study were the Department of Agricultural Research and Extension (AREX) and the Department of Agricultural Engineering and Technical Services (DAETS), both of which provide post-harvest services to farmers. Their service provision was compared to that of two FCOs, the Zimbabwe Farmers Union (ZFU) and the Natural Farming Network of Zimbabwe (NFNZ). Farmers' needs and priorities regarding service provision and their perceptions of the services they received were captured using farmer group discussions (FGDs), while data on the organisations were obtained from key informant interviews and the organisational literature. The set of information obtained from the FGDs – the clients – was used to corroborate the information developed about the service providers. Data on the two types of service providers were analysed using an organisational analytical model. The case study was presented (objectives, methodology, findings, lessons learnt) for review at the December workshop in Harare, and the authors have since revised their report to accommodate the review findings and await on further comments from the management team.

Case Study 3: Manyoni and Singida district nodal studies, Tanzania:

The objective of this case study was to explore post-harvest service provision – past, present and potential – at the district level with a view to identifying the strengths and weaknesses of current practice, and to realising opportunities for improving the local post-harvest innovation systems. The delivery mechanism took the form of multi-stakeholder, district planning workshops.

Implementation was orchestrated by the management team and other key PHILA members, namely Gasana Rwabufigiri, Zonal PHS; Bertha Mjawa, PHMS; Deusdedith Mathias, PHMS, with workshop facilitation provided by Patrick Lameck of Inades. Support was also forthcoming from district staff, notably Benjamin Manento, DALDO and Salim Sengo, DPPO, in Singida, and Emil Njau, DPPO, and Francis Mnkabenga, DCO, in Manyoni.

The Singida and Manyoni district workshops had 56 and 31 participants respectively. They were from the following stakeholder groups: District Administrators (6 Singida) {0 Manyoni}; District Agric Officers (6) {3}; Zonal/ National Agric Officers (5) {4}; Ward level Agric Officers (6) {7}; NGO, CBO, FBO & project (6) {0}; Trainers & Media (5) {1}; Stockists (4) {3}; Traders (2) {2}; Savings & Credit & Councillors (3) {0}; Farmers (9) {6}; Prisons & Nursing College (0) {2}; International partners (3) {3}. The Singida workshop took place in late-July, and the Manyoni workshop in early August. The workshops marked the launching of district-level PHILA in Singida and Manyoni districts.

The case study methodology involved the following steps:

- stakeholder analysis of post-harvest players;
- multi-stakeholder workshops held in two dissimilar districts, incorporating the following tools:
 - timelines to explore past changes in the district, service provision and post harvest issues;
 - statements on stakeholders' core activities, key collaborators and the services they expected from collaborators;
 - exploration of the key characteristics of good service provision, as determined by 'same type' stakeholder groups;
 - linkage matrix: exploration of present linkages between stakeholders against the top few 'good service provision' characteristics;
 - visioning exercise, and identification of conducive and impeding factors – an initial participatory planning exercise;
- recycling of the methodology for the two workshops in Tanzania (and subsequently two workshops in Zimbabwe).

Again the case study was presented (objectives, methodology, findings, lessons learnt) for review at the November workshop, and the authors have accordingly up-graded their report on the two district workshops.

Case Study 3: Binga and Buhera district nodal studies, Zimbabwe:

In Zimbabwe the workshops were conducted and based on a similar methodology to that of Tanzania. The total attendance of the Binga and Buhera workshops was 72 (with more or less the same number of participants) and participants were drawn from Government departments (37), NGOs (6), CBOs (5), Farmers (16), Private Sector (2), Parastatals (2); International partners (2); Others (2).

Output objective 3. Demand and utilisation: *To explore and improve the ability of: (i.) farmers, and (ii.) commercial enterprises, to access and utilise relevant PH information*

Collaborative research planned to realise this objective involved four case studies:

Case Study 4. Exploring empowerment initiatives (Tanzania and Zimbabwe):

This case study was commissioned to explore existing in-country initiatives that are using 'empowerment' or 'rights based' approaches, with the view to identifying lessons that might be transferable to agricultural extension in general and to post-harvest relationships in particular.

The idea as expressed in the TOR was to get beyond the rhetoric associated with empowerment and explore the dynamics of existing initiatives, in whichever sector, to establish to what extent any can be identified as successful by a set of consistent and measurable criteria. It was anticipated that insights would provide complementary learning opportunities – models to copy, or avoid – for service provision.

In Tanzania, where the work was led by Ms B. Mjawa (PHMS), a number of empowerment interventions were identified ranging in scale from local initiatives to those operating at a national level and covering in focus political change, gender and poverty objectives. Only interventions working directly with local communities were taken into consideration, and these included both government and voluntary sector organisations. Six organisations were eventually selected for the study: TASAF, PADEP, MVIWATA, UKUN, INADES and MCOBA.

Following presentation of the case study at the Tanzanian review workshop, the management team suggested reducing the number of interventions under study to improve focus. One particular initiative had stood out during the study and that was the organisation UKUN in Bagamoyo district, which focused on home-based care of HIV positive patients. UKUN, which began as a self-funded, voluntary organisation, has recently started receiving funding and training through Care International's Tumaini programme. It now supports 20

para-professional volunteer health workers in villages in Bagamoyo district, who in turn support and train the caretakers (usually relatives) of 679 home-based HIV positive patients. The author is currently re-orienting her report to elaborate this particular initiative.

A similar study was carried out in Zimbabwe by Ms Z. Soroti and Ms H. Zheke, both of Catholic Relief Services (CRS). The instruments used for data collection included focus group discussions (FGDs), key informant interviews and direct observations. Four empowerment cases were studied; these comprised the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE), Farmers Association of Chiefs/Headmen Investment Groups (FACHIG), Farmer Field Schools, and Musasa, a project focusing on the rights of women.

This case study was presented (objectives, methodology, findings, lessons learnt) for review at both the Tanzanian and Zimbabwe review workshops, and the authors have since revised their report to accommodate the review findings, and await on further comments from the management team.

Case Study 5. Household enquiry visits: learning to listen and listening to learn (Tanzania and Zimbabwe):

The enquiry visit approach was developed in response to the all too familiar scenario of specific technologies identified and 'proven' to work by researchers, failing to be adopted by farmers, and thus failing to have any impact (i.e. address underlying food security problems). It was felt that existing needs assessment practices, if and when used, failed to differentiate between the different types of rural households. As a consequence, either the problems tackled were not relevant to significant sections of the community and particularly poorer households, or the technical solutions failed to take adequate account of the straitened circumstances (e.g. limited resource base, vulnerability etc) of those sections, and were thus inappropriate. The challenge is to mainline understanding of the diversity of farmers in the minds of service providers (i.e. bring about attitudinal change), and/or to provide them with the practical tools for realising this understanding and enable them to move away from the 'one size fits all' approach that is currently widespread.

The enquiry visit approach specifically provides: opportunities for understanding how farmers learn and make decisions; understanding of how information required by farmers is typically secured from diverse, overlapping information networks (e.g. formal and informal, civil society and state sector); opportunities to help farmers 'negotiate' the bureaucracies and lay claim to needed resources - 'demand driven' services; an excellent channel for evaluating impact.

Farming households are not homogeneous. They operate in different agro-ecological zones, have different individual and household resources to call upon, are exposed to different social, cultural and institutional pressures, and deploy different livelihood strategies. Post-harvest decision making will be influenced by:

- post-harvest factors: storage practices (e.g. cultural & technical); quantity and quality of grain; timing & levels of infestation etc;
- farming system factors: mixture of crops grown; cash *cf.* food *cf.* fodder crops etc;
- 'livelihoods' factors: household size; social events (e.g. visits, funerals); interventions (e.g. food aid, DE project); market prices, seasonality.

The current enquiry framework captures: basic interview details; farmer managed trial details and developments (associated with earlier DE trials); farmer's description of PH (or/and crop production) activities; farmer's estimation of PH (or/and crop production) outcomes; farmer's view on factors influencing PH (or/and crop production) activity outcomes; farmer's future plans; farmer's information networks; household livelihood activities; and, household livelihood assets.

The enquiry visit approach was originally developed and used in Mlali village, Kongwa district, and in Arri village, Babati district, Tanzania. It has continued to be used in Mlali

village, where a good understanding of the factors affecting the post-harvest decision making of 18 households over a three year period has been developed.

In Zimbabwe the enquiry visit approach is being implemented by extension staff in Buhera district, following their training by the management team in May 2005. The study involves 21 households in different wealth categories and so far two visits have been undertaken; a third is planned for March/April 2006.

In September 2005, during the exchange visit (case study 6) to Mlali village, Tanzania, the opportunity to introduce the twelve extension staff participants to the enquiry visit approach was taken. Further training and follow-up on the use of the approach and associated tools is planned to take place in Manyoni and Singida districts.

Case Study 6. Farmer and frontline extension staff exchange visits (Tanzania only):

The objective of this case study, which was led by the management team and undertaken in Mlali village, Kongwa district, was to explore and develop insights that might improve understanding of the particular circumstances and mechanisms that facilitate or inhibit farmer-to-farmer learning. It was hoped that these insights would then contribute to the overall aims of improving the ability of farmers to access and utilise relevant post-harvest information, and of helping service providers better understand, facilitate and/or meet these requirements.

Mlali village was selected to host the visit as the project team had already been working there for four years during the earlier DE project, and the village authorities were happy to welcome the visitors. Participating farmers and extension staff from Singida and Manyoni districts were selected by the respective district agriculture and livestock development offices. The ten farmers from each district included representatives from different wealth groups (i.e. three, five and two from the poorer, medium and higher wealth-ranked households respectively), and were split equally between the sexes. Several of the farmers from Singida had been involved in testing botanicals as grain protectants as part of a crop protection information promotion project. Participating extension staff, six and four from the two districts respectively, included the DALDOs, subject matter specialists (SMSs) and ward extension officers (WEOs). The two-day visit occurred in September 2005, during the post-harvest season.

The approach used was one of allowing the visiting farmers complete freedom to wander around Mlali village, interacting as they wished with whomever they chose on whatever topic they wanted. Information exchanged was captured by farmers using disposable cameras, pens and notebooks, supplemented in turn by daily video diaries. The adoption of different means of collecting data was intended both to offset literacy and/or other cultural constraints and to provide corroborative sources – triangulation – for the subsequent analysis. The participatory data collection would also avoid the risk of researchers subsequently asking leading questions and/or inadvertently misrepresenting the exchange agenda. The photographic record and video diaries could also be more easily shared with neighbours on return to their own villages.

In the event, most participants appeared to readily take to the use of both still and video cameras, the former resulting in numerous high quality visual images. Notebook entries however, tended to be somewhat brief. The timing of the visit not only ensured a post-harvest focus to the exchanges, but also determined that most Mlali farmers were at their homesteads rather than away in their fields.

For the purposes of developing understanding from the exchanges an analytical framework was devised based on livelihood assets and activities. To date the photographic records have been processed but analysis of the written and video records awaits completion. The participants had been asked to make written explanations of why they took each of their photographs. These records were then used to classify the 418 photographs according to the activities (e.g. harvesting, drying, storing, treating etc) and related assets (i.e. natural, physical, human, social, or financial) identifiable within each image and of interest to the

photographer-farmer or extensionist. The notebook contents and oral records are being used to corroborate and refine the interpretation of the photographic records.

In generating the TOR for this case study, and with a view to commissioning PHILA members who had previously expressed interest in this work, particular attention was paid to making the language more user-friendly and the ideas to be tested more accessible. Despite this effort the response was disappointing and the management team were obliged to initiate the study themselves, and implement it with the support of the respective DALDOs and other key players. This in turn exposed the planning and implementation processes to the many constraints associated with physical separation (large distances between the MT in Dar es Salaam, the DALDOs in their respective district centres, and the village locations) and poor communication and transportation infrastructure. Moreover, while exchange visits need not be so expensive, the superimposed research challenge of exploring and identifying how and what it is about farmer-to-farmer exchange visits that works well, significantly increased logistical complexity and cost.

While a lot of thought went into this case study, and particularly around different and participatory ways of collecting data, the same amount of attention was not initially given to the analysis. It is hoped however that the livelihoods asset and activity matrix, that was subsequently adopted for the analytical framework, will prove relevant and of wider interest to the exploration of farmer-to-farmer learning. The time and resources available for this case study, as for the others, were less than optimal, such that the many desirable follow-up activities identified in the process, will be dependent on the goodwill of PHILA members and their ability to source funding for the future.

Case Study 7. Interface analysis of commercial enterprises and service providers (Tanzania only):

The objective of this case study was to explore the relationship between public service provision and research with those few private sector companies who produce and/or distribute storage protectants. The inclusion of this particular study stemmed directly from earlier work on diatomaceous earths, and the due process which requires that a private sector company champion the registration.

The work was undertaken by Dr Magayane (SUA) and Mr Rwambali (SUA), and used the same methodology as case study 1, which they also undertook. The authors are presently up-grading their report in line with suggestions made at the review workshop.

In late-March, 2005, the management team, under the auspices of the Ministry of Agriculture and Food Security (Tz), had a meeting with key private sector players to share the latest research findings on the DE technology. Significant interest was displayed by the company representatives, and one of the stakeholders subsequently confirmed in writing their intention to register local DEs. The company representatives praised the sharing of the DE information and indicated that this had created a precedent in terms of their relations with the Ministry. The case study was seeking to further explore this particular interface.

Output objective 4. Policy and implementation strategies: *To generate and promote recommendations for policy and implementation strategies that will improve the performance of PH service providers & researchers and enhance related decision-making by farmers and commercial enterprises.*

This fourth output objective was expected to be built on the findings of the first three outputs, and relates to optimising the impact of new knowledge on the national PH innovation system. One key activity set associated with this output relates to case study 8, a desk review of diverse policies and their bearing on post-harvest practices. An additional case study was latterly commissioned in Zimbabwe, and this relates to the dynamics of the agro-processing industry, and the opportunities and constraints it offers small-scale farmers.

Case Study 8. Reviewing policy and associated processes to better understand the implications for post-harvest practice (Tanzania and Zimbabwe):

The objective of this case study was to develop and present a clear picture of how present policies and the dynamics associated with their formulation and implementation have or will have bearing on the post-harvest situation in the respective countries and on the national innovation systems.

This study was a desk-based review that was both to contextualise post-harvest related policies (e.g. for agriculture and agricultural extension, markets, food security) within the wider national - and if relevant, regional - policy framework, together with drawing out specific implications for the diverse post-harvest practices (storage, processing and marketing) of small-scale producers. With respect to future scenarios the reviewers were also invited to comment on the aspirational content of current policies and their likely outcomes.

In Tanzania, where the study was carried out by Mr S. Semgalawe assisted by Mr J Ngirwa (Department of Policy and Planning, MAFS), the policies reviewed included: the 1997 agricultural policy; the agricultural sector development programme (ASDP) and strategy (ASDS); the land policy; the cooperative policy; the water policy; the taxation policy; the trade policy; the local government reform programme; the Tanzanian development vision 2025; the poverty reduction strategy paper (PRSP); and the agricultural extension vision 2000.

Presentation of the study's findings at the November review workshop stimulated heated debate, both about the policy processes as revealed by the study, and about perceived shortcomings in the presentation. The authors are currently up-grading the study.

In Zimbabwe the study was eventually carried out by Mr B. Hanyani-Mlambo (African Institute of Agrarian Studies/UZ), with support from Mr G. Mudimu (UZ), Mr R. Jera (Safire), and Mr T. Dube (Ministry of Agriculture). This was after the candidate initially commissioned to conduct this case study had failed to deliver. Because of these problems the newly commissioned team were only able to deliver their first draft in January, and it is now awaiting review by the management team.

Case Study 9. The agro-processing industry: opportunities and constraints for small-scale farmers?

The objectives of this study were to develop and present a detailed and clear picture of what small-to-medium agro-processing systems require to effectively manufacture and market processed products; and to review agro-processing service provision, research and extension linkages in Zimbabwe. The study was carried out by Dr N. Mhazo (UZ), Dr B. Mvumi (UZ), Mr R.M. Nazare (UZ), and Mr E. Nyakudya (UZ), and executed through a desk review of literature focusing on commodity-specific cases of agro-processing enterprises. Informal discussions with key players in agro-processing were also conducted.

Following presentation of its findings at the review workshops in both countries, the authors have up-graded their report and presented it to the management team.

Section D - Outputs

Output 1. Institutional learning and change: improvements to understanding and effectiveness of learning alliances as agents of change, advanced.

Objectively Verifiable Indicators	Achievements
1.1 Formalised understanding of the successes and weaknesses of learning alliances (LAs) established through iterative review of project partnerships and institutional learning – process monitoring.	<ul style="list-style-type: none"> ▪ Post-Harvest Innovation Learning Alliances (PHILA) have been initiated and operationalised in Tanzania and Zimbabwe, with expanding memberships currently totalling more than 40 organisations from the public, voluntary and private sectors. ▪ PHILA's approach and activities – collaborative action-research, information-sharing and engagement – have intrinsically and explicitly raised awareness and understanding on matters of institutional learning and change among

<p>1.2 Improved communications between expanding learning alliance (LA) partners, and particularly between different 'levels' of multi-stakeholder platforms, developed over the year.</p>	<p>PHILA members and diverse post-harvest stakeholders (together a microcosm of the national post-harvest innovation system).</p> <ul style="list-style-type: none"> ▪ New working patterns and approaches (in addition to specific case study findings) trialled by PHILA have been documented, and are generating fresh understanding and suggesting new modes of working to effect systems-level change. Many members have adopted tools and techniques introduced to them through PHILA. ▪ PHILA's performance against its core activities (i.e. collaborative research, information-sharing (internally), engagement (externally), and management) has been assessed by the membership in both Tanzania and Zimbabwe, and lessons noted. The assessment questionnaire was developed with and through the membership at the PHILA review workshops. ▪ A symposium paper, 'Post-harvest innovation to improve food security in Tanzania and Zimbabwe: Learning alliance lessons', was presented at the Delft, Symposium on Learning Alliances for Scaling up Innovative Approaches in the Water and Sanitation Sector, in June 2005. This paper will now be further developed for journal publication using the enhanced understanding developed through iterative review of the learning alliance process during the last 10 months ▪ Modus operandi of the PHILA management team (MT), which has persistently advocated and promoted (i.e. provided resources and training for) the use of ICTs, is established and will be passed on to any future MT. ▪ Members' assessment of PHILA's performance roundly endorsed the use of and emphasis placed on ICTs, e-mails and text messages in particular, while acknowledging the disadvantage that those lacking access suffered. ▪ PHILA website established (with members only working area); currently being linked to other websites. ▪ Set of working principles and practice (briefing note), derived from the learning alliance experience and proposing better ways by which organisations and individuals in the national post-harvest system might work and learn together, to improve uptake and adoption of post-harvest knowledge by end-users, is being prepared.
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The literature on knowledge networks – precursors to learning alliances - suggests that in the life cycles of such groups the formation period typically takes between 1 to 3 years (Creech and Ramji, 2004). From this perspective the formation of PHILA and development of understanding of the associated processes has been relatively successful. Much remains to be learnt about the impact of LAs, which can only be expected to take-off when the interactive aggregation of recent activities becomes effective.

From the onset the management team has made use of and then actively promoted ICTs on the basis that they represent one of, if not the most influential contribution to development in recent years, and their use continues to expand rapidly (notwithstanding that there are skews in the system which will remain for some time). That said, the process of encouraging partners to take up or make more use of ICTs has been very challenging, and maintaining regular contact or sharing basic information between remote locations and between some of the different (administration) levels remains problematic. Constraints of course relate to access and availability of new technologies (PHILA offered to pay for internet access to address affordability issues), but much remains to be done in persuading organisations not only to invest in ICTs (an area in which the private sector is everywhere very active) but also in upgrading people's skills.

Output 2. Facilitation of in-country PH knowledge management: Practical ‘insights’ from current working practices developed, and improved practice recommendations generated.

Objectively Verifiable Indicators	Achievements
<p>2.1 Institutional analyses of state service providers and a minimum of 4 farmer-centred organisations (FCOs) in Tanzania & Zimbabwe by mid-term workshop (July).</p> <p>2.2 Interface analyses of public SPs & public research, of public SPs & ‘commercial’ sector (e.g. agri-business) in 2 countries by mid-term WS (July).</p> <p>2.3 Interface analyses of public SPs & farmers, of FCOs & farmers; and comparative analysis; for the 2 countries by mid-term WS (July).</p> <p>2.4 Public SPs PHS, PHMS and Extension Services in MAFS (Tz), AREX and AETS (Zw), and FCOs in both countries, develop a better integrated (e.g. new linkages between SPs and FCOs), more responsive approach to meeting the demands of a diverse private sector (e.g. different farmer types, ‘commercial’ enterprises, policy makers).</p> <p>2.5 Additional insights developed from exchange visits of farmers and frontline extension staff.</p> <p>2.6 Review of agricultural and research policies (e.g. Agricultural Sector Development Plan (ASDP) in Tz) against study findings.</p>	<ul style="list-style-type: none"> ▪ Body of critical information on the interface between public service providers and public sector research in Tanzania has been generated, shared and reviewed. ▪ Body of critical information comparing and contrasting how public service providers and farmer centred organisations work with farmers in two dissimilar districts of Tanzania and one district in Zimbabwe has been generated, shared and reviewed. ▪ Past, present and potential post-harvest service provision has been explored, appraised and documented in pairs of contrasting districts in both Tanzania and Zimbabwe; participatory agricultural development planning exercises have been initiated; associated multi-stakeholder processes, tools and techniques have been developed and shared with the respective district personnel and PHILA members. ▪ Guidelines (briefing note) on the management of inclusive multi-stakeholder planning processes for agricultural development at the district level have been formulated. ▪ Practical ideas for increasing responsiveness to farmer-demand have been developed and documented (PHILA group exercise at the review workshops in Tanzania and Zimbabwe). ▪ Case study on farmer and extension staff learning through exchange visits has been undertaken and learning materials generated, including a film based on participants ‘video diary’ entries; general briefing note under preparation. ▪ Awareness raising and training amongst extension staff from two districts in Tanzania and one in Zimbabwe on the enquiry visit approach (a portfolio of techniques and tools for mainlining farmers, facilitating understanding of their diverse circumstances and responsiveness to their decision-making) have been effected. ▪ Case studies on the bearing of diverse policies, their formulation and implementation, on the post-harvest situations in Tanzania and Zimbabwe, have been undertaken, shared, (and for Tanzania) reviewed.

Following the inception workshop in Tanzania, outputs 2 and 3, and their associated activities, were more clearly distinguished along the lines of *service provision* and *farmer demand*. While these changes to the activities were amply documented, appropriate changes to the OVIs were not made. Achievements relating to those case studies that have actively involved stakeholders from both sides of this equation (e.g. case study 6, the exchange visits) will feature against both outputs.

In addition to delays in the initiation of the project, the process of commissioning the case studies took longer than expected. This was partly due to the *iterations* in the development of TORs and proposals, that are integral to the approach and design, but was also due to the limited responsiveness of the new PHILA members. At this early stage (in PHILA life) management was in effect forced to engage in some commissioning *arm-twisting* to maintain the necessary momentum of the project. These delays plus slippage associated with carrying out quite complicated research in an unconventional way and in a very short timeframe, which experience might suggest are par for the course, has meant that the fullest realisation of the output is still work in progress. Fortunately, PHILA provides a suitable framework and the necessary continuity to continue the task of optimising this output.

Output 3. Ability of diverse private sector players – farmers and commercial enterprises – to access and utilise relevant PH information, explored and improved.

Objectively Verifiable Indicators	Achievements
<p>3.1 Clusters of resource poor farmers in a number of districts identified, introduced to, and put into practice - embrace - PH information relating to a selection of PH technologies including the use of DEs.</p>	<ul style="list-style-type: none"> ▪ More than 260 farmers in Kongwa and Babati districts in Tanzania, and in Buhera and Binga districts in Zimbabwe, learnt about and independently assessed a range of grain protection treatments including diatomaceous earths (DEs). ▪ 40 farmers in Kongwa and Babati districts who had previously been involved over 3 years in the running of researcher- and farmer-managed grain storage trials (R8179), continued their own experimentation with DEs. Given two packets of DE, one was used to continue their own evaluations and the other to train another farmer in the use of DE grain protectants. ▪ 20 farmers from Singida and Manyoni districts visited farmers in Kongwa district who had been running grain protection trials for three years. Some of the visitors had themselves been conducting grain protection trials with botanicals following the sanitisation of their storage facilities with Actellic EC; next season (2006/07) they too will be testing DEs. ▪ Farmers and extension staff in Zimbabwe, who were invited to the PHILA inception and review workshops, testified to the efficacy of DEs. They are also demanding that the products be made available to the farming community. ▪ Case study on farmer and extension staff learning through exchange visits has been undertaken and learning materials generated. ▪ Guidelines (briefing note), including innovative techniques and analytical tools, for effecting exchange visits, and developing understanding of, transferring and consolidating lessons from, farmer-to-farmer learning, have been developed. ▪ Awareness raising and training amongst extension staff from two districts in Tanzania and one in Zimbabwe on the enquiry visit approach (a portfolio of techniques and tools for mainlining farmers, facilitating understanding of their diverse circumstances and responsiveness to their decision-making) have been effected. ▪ Sets of case studies on empowerment initiatives in Tanzania and Zimbabwe respectively have been undertaken, potentially transferable lessons identified, and learning materials generated.
<p>3.2 Agri-business in at least 2 SSA countries develop business plans for the importation and/or mining, refining and distribution of DEs.</p> <p>3.3 Work undertaken by marketing companies in Tz and Zw to establish the potential markets, commercial viability and public acceptability of DEs.</p>	<ul style="list-style-type: none"> ▪ Meeting held with key representatives from private sector agro-input companies in Dar-es-Salaam, March 2005, to share the findings of the parent projects research into the use of diatomaceous earths as grain protectants in Tanzania and Zimbabwe, and the basic cost calculations for the importation of Protect-It. Significant interest was shown in these new and less toxic grain protectants. ▪ Suba-Agro, has followed up with letters to Plant Health Services (MAFS). ▪ In Zimbabwe, EcoMark is actively following up the registration of Protect-It with the authorities, and they have used the PHILA workshops as a platform to share the challenges they are facing and recruit support to advance the process. ▪ ZimPhos, working with its subsidiary Dorowa Minerals Ltd., is investigating the local Zimbabwean DE deposits, one of which has a crystalline silica content well within the safe limits for registration as a grain protectant and for industrial uses. An economic assessment has been undertaken and they have recently submitted an Environmental Impact Assessment report to the relevant Ministry, a pre-requisite to commercial exploitation. ▪ A case study on the interface between agro-chemical companies and public service provision and research in Tanzania has been undertaken and

	documented; the work has been reviewed by PHILA members and is presently being up-graded.
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Following the inception workshops, outputs 2 and 3 and their associated activities were more clearly distinguished along the lines of *service provision* and *farmer demand*. The changes to their activity sets were documented but equivalent changes to the OVIs were not made, and thus there may appear to be an element of incongruity here. Maintaining the original focus of the OVIs on DEs, which stemmed from the parent project (R8179) and management partners' interest and commitment to promoting DEs, has been difficult not only because of the emphasis (as per the output) on demand, and on farmer-demand in particular, but because movement in the promotion of DEs is now reliant on public sector players *championing* the registration processes. In Zimbabwe, the relevant private sector players have been actively involved in PHILA. In Tanzania, although communications remain very much open between most of the private sector players who attended the meeting in March, and MAFS, they have not played an active role in PHILA. Key informant interviews were however held with many of them under case study 7.

Presently the commercial sector in Tanzania argues that the cost of importing commercial DEs for application at the rate (0.25% w/w), recommended for control of the Larger Grain Borer, *Prostephanus truncatus*, is expensive (when compared with importing the active ingredients of synthetic pesticides) so that interest is more focused on the local DE deposits. Preliminary results from the Kagera deposits in Tanzania however have shown that the crystalline silica contents is above the safety limits, and further testing of these local DEs both in terms of efficacy and safety, is still required.

As per the case studies associated with output 2, delays in the initiation of the project and in the case study commissioning process, similarly caused slippage in the activity sets that comprised output 3, and in the timely realisation of the output. While the programme of activities was somewhat ambitious, it is anticipated that PHILA members will continue to contribute to the scaling-up of this output.

Output 4. Policy and implementation strategy recommendations to improve the performance of PH knowledge management organisations and enhance related decision-making by farmers and commercial enterprises generated and promoted.

Objectively Verifiable Indicators	Achievements
<p>4.1 Incorporation of DE technology into mainline agricultural sector policy.</p> <p>4.2 More inclusive approach by public sector SPs to engaging with a wider selection of farmers. Finer 'match' of PH information to targeted farmer groups; more equitable and relevant targeting; monitoring outcomes suggesting SPs are reaching the more resource-poor PH.</p> <p>4.3 Recommendations adopted and actioned by statutory service providers.</p>	<ul style="list-style-type: none"> ▪ Detailed presentations of the parent project's (R8179) findings on the use of DEs as grain protectants were made to participants at the PHILA inception workshops in Zimbabwe and Tanzania. Participants included a range of post-harvest stakeholders. ▪ Meeting held with key representatives from the agro-input private sector in Tanzania in March 2005 to share the research findings into the use of diatomaceous earths as grain protectants (R8179) in Tanzania and Zimbabwe, and to stimulate their championing of the registration process in Tanzania. ▪ Case studies on the bearing of diverse policies, their formulation and implementation, on the post-harvest situations in Tanzania and Zimbabwe respectively, have been undertaken, (and for Tanzania) shared and reviewed. ▪ Set of recommendations based on multi-stakeholder reviews of the case studies associated with outputs 2 and 3, for improving responsiveness to farmer demand, have been generated. ▪ Steps for improving both policy formulation and policy implementation in Tanzania and Zimbabwe respectively, have been identified and drawn up by PHILA members at the review workshops. ▪ Set of working principles and practice (briefing note), derived from the learning alliance experience and proposing better ways by which organisations and individuals in the national post-harvest system might work and learn together,

	<p>to improve uptake and adoption of post-harvest knowledge by end-users, is being prepared.</p> <ul style="list-style-type: none"> ▪ Literature on the requirements of small-to-medium agro-processing systems for effective manufacturing and marketing, and on agro-processing service provision, research and extension linkages in Zimbabwe, has been reviewed and synthesised. ▪ Participatory agricultural development planning exercises have been initiated in 2 districts in each country; associated multi-stakeholder processes, tools and techniques have been developed and shared with the respective district personnel and PHILA members. One of the district councils, Singida, has since adopted key elements of this approach in its district agricultural development planning. ▪ Key stakeholder types with whom PHILA needs to build and foster relationships have been identified, and the process of engagement introduced into strategic planning. ▪ PHILA's strategic action plans for Tanzania, drawn up by the membership, envisage PHILA playing a mainline role in the workings of the ministry (MAFS), and/or MAFS continuing to play a major role in PHILA's future.
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The selection of the first OVI for this output again reflects the conceptive context of the project, and the desire of the managing partners to see the successful promotion of the DE technology. The thrust of the activities associated with this output however has focused more on service provision meeting *farmer-demand*, rather than on the expression of demand by commercial companies. This point may not hitherto have been adequately represented in the reporting as the anticipated progress on this output was always going to come at the end of the project period.

The design and subsequent delivery of output 4 were tied both to the establishment of an effective leaning alliance and associated understanding (output 1), and to the lessons learnt and emerging insights derived from the study of existing service provision and of farmer-demand initiatives (outputs 2 and 3). The learning alliance is up and walking (as appropriate to its infancy), but significant delays were experienced in the commissioning and implementation of the case studies, which in turn interfered with the reviewing and validation processes. These delays, compounded by the earlier delays in the initiation of the project, have inevitably squeezed the identification and drawing up of recommendations, and more particularly their promotion. PHILA however is established and is mandated by its membership to continue this work.

How have the outputs been made available to intended users?

The purpose of the project is to generate and promote new knowledge as to how national innovation systems can be better mobilised to sustain the uptake and adoption of crop post-harvest knowledge for the benefit of the poor. In the learning alliance approach *knowledge* is viewed as a *process* of learning rather than simply as content or *product*, and is characterised by relationships, communication and context. Making available this knowledge – the project outputs – to intended users has and will continue to be achieved through *engagement* with those users and learning together.

The main thrust for engagement during the (on-going) inception phase of PHILA has been with and through the learning alliance: members (and other stakeholders) working and learning together through selective collaborative research initiatives, with built-in action-reflection and information-sharing cycles. To scale-up and scale-out these ideas requires an additional level of engagement to influence those key stakeholders who can bring about change in the system. This more strategic engagement, together with the collaborative research and internal information sharing, is one of PHILA's core activities. To some extent individual members have already, spontaneously and through the course of their regular work, sought to influence such people. The management team however has been working

to consolidate this approach, firstly by identifying these key stakeholders (see Box 2), and secondly by ensuring that engagement strategies already set out in the project memorandum are incorporated and further developed in PHILA's strategic planning.

Box 2. Key stakeholders with whom PHILA needs to build and foster relationships

- those who are in a position make decisions or effect changes in policy and practice (e.g. policy makers, district councillors and service providers, innovative farmers);
- those who can influence these decision-makers directly (e.g. members of parliament, private sector companies);
- those in civil society who can bring pressure to bear on decision-makers (e.g. MVIWATA, INADES, ZFU, ICFU, CRS, SC UK, KMTTC, NFNZ etc);
- those who can support, reinforce and strengthen PHILA's recommendations (e.g. training and research organisations [ICE, SUA, ARIs, UZ, PPRI, AETS], financial organisations [SACCOS] etc);
- those in the media who provide a means by which the alliance can reach the public; and
- the donor community, who can finance and support PHILA's activities.

Some of these stakeholders may already be members of the alliance, but many others will be outside the alliance, suggesting either enrolment or engagement initiatives.

What plans have been developed to take forward this work?

PHILA, the current management team and its membership in both countries, have formulated plans to seek to ensure the works continuation. Initial strategic action plans were drafted by members at the two review workshops, including ideas for securing the necessary finance. Full details of these plans can be viewed in the reports of the PHILA review workshops in Tanzania and Zimbabwe (cited in Annex V). Suitable funding opportunities are being monitored by the management team.

Section E - Purpose

The project purpose is to generate and promote new knowledge as to how national innovation systems can be mobilised to sustain uptake and adoption of crop post-harvest knowledge for the benefit of the poor. The OVIs identified with this purpose are as follows:

- By 2006, evidence-based strategies on how to facilitate the exchange of knowledge/information between suppliers and users documented within >2 regions, and disseminated to intermediary organisation in four regions
- By 2006, evidence-based insights on how research innovations can be introduced sustainably into local knowledge systems are disseminated to intermediary organisations in 4 regions.

The project, *Post-harvest innovation: Enhancing performance at the interface of supply and utilisation*, has tried and tested an approach – the learning alliance approach – for the purpose of better mobilising two national innovation systems in sustaining the uptake and adoption of crop post-harvest knowledge for the benefit of the poor. The implementation strategy used to operationalise the approach has been to involve a cross-section of organisational post-harvest stakeholders in pivotal collaborative research initiatives, in free information-sharing (using ICTs as well as workshops) across the alliance, and in structured engagement with other influential players. The engagement strategy has only latterly been formally developed as it first required that members acknowledged the merit and felt confident in PHILA's research and information-sharing activities being able to deliver mutually beneficial learning.

Intrinsic to the learning alliance approach is the concept of knowledge as a process of learning, characterised in the innovation system context, by effective relationship and communication to overcome institutional barriers. PHILA's research activities, involving as they have many and diverse post-harvest stakeholders, the majority deemed potential end-users of the *knowledge* (in the conventional sense), have inculcated promotion amongst these participants through the research processes.

The membership in two countries, a microcosm of the respective national post-harvest systems, has assessed PHILA's performance in terms of offering and effecting different ways of working within the system, and has judged it favourably. It is too soon however – barely 10 months – to expect the fruits of this initiative (many still on the tree) to have been more widely distributed, although this and other *learning alliance* initiatives are recording increasing interest; wider conventional promotion remains to be undertaken. It is also, too soon to expect impact at the beneficiary level, too soon therefore to measure impact, and premature to lay claim to evidence-based success for PHILA's strategies.

Without losing sight of these significant caveats, PHILA can however lay claim to having adopted an approach and generated delivery strategies to facilitate *knowledge* exchange that have been broadly welcomed, used, and approved by many key players in the respective national post-harvest system.

- PHILA's approach, with its underpinning *innovation system* perspective, coherent rationale and inclusive principles, has provided a safe space for diverse individual stakeholders from multiple organisations to work and learn together in strategic pursuit of the common purpose. In particular PHILA:
 - has brought together a wide range of partners with capabilities in implementation, regulation, policy & legislation, research & learning, documentation & dissemination etc;
 - represents part of the bigger whole, and thus captures some of the organisational complexity that constitutes the day-to-day realities of the innovation system;
 - comprises partners who are typically clustered at different 'administrative' (e.g. national, regional, district) levels – *stakeholder platforms* – within the innovation system, and for whom connectivity has not always been a given;
 - has provided opportunities to identify and breakdown the barriers that constrain learning – both across platforms (i.e. *horizontally*) and between platforms (i.e. *vertically*);
 - has promoted flexible and adaptive working practices, shared responsibilities, costs and benefits;
 - has championed and promoted the participatory development of different ways for key organisation and individuals, within the national post-harvest system, to work together;
 - has ensured that concepts, approaches, methodologies, techniques, tools etc, have been freely shared, to better ensure local ownership and enhance local capacity;
 - has advocated, promoted and subsidised the use of modern ICTs (e.g. internet cafes, memory sticks, cell phones).
- The project has promoted strategic engagement with key players in the innovation system, developed understanding of existing institutional relations and sought to improve these and build on existing strategic initiatives.
- The project has actively promoted recognition of the diversity of rural circumstances and livelihoods (i.e. between areas and communities, between and within households), to ensure that service provision is more responsive in meeting the needs and priorities of different groups, including poorer individuals and households. It has specifically developed and promoted approaches, tools and techniques, to facilitate responsiveness particularly to the demands of poorer farmers.
- The project will publish all case study findings, briefing notes, workshop reports, and process learning on enhancing post-harvest performance at the interface of supply and utilisation, on the PHILA website, and draw it to the attention of key players in the national innovation systems; and PHILA will continue this work.

Section F - Goal

The goal of the project is that national and international crop post-harvest innovation systems respond more effectively to the needs of the poor.

We have described how individual and clusters of key organisational stakeholders in the respective post-harvest innovation systems of Tanzania and Zimbabwe have deployed strategies generated by and through the project's approach and activities, which are geared to enhancing responsiveness and facilitating the exchange of knowledge and information between suppliers and users (Section E, Purpose). A case too can be made that the outcomes of some of these initiatives have already led to specific needs of some poor farmers being met. It is however too soon to suggest, either that a systemic change has been effected in the respective innovation systems, or that the impact of this change (partial or complete) has led to widespread and effective responsiveness.

While however, it is too soon to expect impact at the beneficiary level and too soon therefore to be able to lay claim to evidence-based success for this initiative, those key stakeholders who are involved in PHILA's activities, are very optimistic about its longer term success.

Section G Project effectiveness

	Rating
Project Goal: National and international crop post-harvest innovation systems respond more effectively to the needs of the poor.	4/3
Project Purpose: New knowledge as to how national innovation systems can be mobilised to sustain uptake and adoption of crop post-harvest knowledge for the benefit of the poor, generate and promote.	3/2
Output 1. Institutional learning and change: improvements to understanding and effectiveness of learning alliances as agents of change, advanced.	2
Output 2. Facilitation of in-country PH knowledge management: Practical 'insights' from current working practices developed, & improved practice recommendations generated.	2
Output 3. Ability of diverse private sector players – farmers and commercial enterprises – to access and utilise relevant PH information, explored and improved.	3
Output 4. Policy and implementation strategy recommendations to improve the performance of PH knowledge management organisations and enhance related decision-making by farmers and commercial enterprises generated and promoted.	3/4

- 1= completely achieved
- 2= largely achieved
- 3= partially achieved
- 4= achieved only to a very limited extent
- X= too early to judge the extent of achievement (avoid using this rating for purpose and outputs)

Section H – Uptake and Impact

The learning alliance approach was conceived both as a specific vehicle for addressing the institutional learning and change output objective and as the main approach for project implementation and purpose realisation.

Members have strongly expressed their intent to ensure that PHILA continue, and strategic planning exercises, including outline plans, have been undertaken in both countries. PHILA initiatives are already being integrated into local government plans (e.g. participatory planning exercise and cost-sharing being incorporated into district agricultural development plans (DADPs)), and have been well received by key players at the national level. The plans build on and scale-up these initial engagements.

Many other specific opportunities associated with PHILA and the earlier work on Diatomaceous Earths (which spawned this project), have been identified, and the following activities are being planned by its members:

- The website (<http://www.nri.org/PHILA/>), which will continue to be used as a fulcrum point to share and promote PHILA's work, is to be transferred to respective in-country hosts.

- The project's general recommendations on *ways to improve the uptake and adoption of post-harvest knowledge by end-users and especially poorer farmers* will continue to be promoted with key knowledge managers.
- The various case study reports will be upgraded and a series of short and accessible briefing notes will be generated and published on the PHILA website.
- Particular approaches, tools and techniques, which PHILA has either developed or added value to (e.g. enquiry visits, exchange visits, profiling district post-harvest scenarios) will be promoted through awareness raising, training inputs and publications.

Funds will also be sought for:

- Diatomaceous earths (DEs): Work focusing on: registration issues; involvement of the private sector; local deposits vs importing commercial DEs; safety of local deposits of DEs as regards crystalline silica content; DE promotional materials including farmer demonstrations.
- Agro-processing: how do changes in the agro-processing technologies and associated SME developments, impact on the livelihoods of different people?
- A study to further explore the effectiveness of learning alliances in bringing about institutional change in two countries, one of which is a 'failing' state.

Organisational Uptake

The following table details known uptake of the research outputs by intermediary organisations and projects, all of whom have been directly involved with PHILA:

Organisation	Uptake indicator
SC UK, Zimbabwe	Has advocated the Learning Alliance approach in funding proposal submitted to EU in November 2006.
ECOMARK Ltd (Zimbabwe)	Have shared their involvement with PHILA activities with other agro-chemical company representatives at their regular monthly meetings.
ZFU	Became aware of the farmer demands for DE registration and pledged to lobby the case with the relevant authorities.
AREX, Zimbabwe	Shared/Sharing the Learning Alliance approach through: i). workshops with extension officers at district level and farmers at village level; ii). RDC monthly meetings
IAE, Zimbabwe	Following the PHILA inception workshop now preparing solar dryers together with SC UK and hope to participate in the training of farmers
CRS & SC UK, Zimbabwe	Have engaged farmers and other NGOs through discussions and farmer trainings using PHILA concepts at ward level
PHMS, MAFS, Tanzania	Have used new CBO linkages developed during their involvement in the PHILA empowerment case study (CS4) to extend their expertise. Specifically they have trained home-based carers of HIV+ve patients in the production of enriched flours and peanut butter, which in addition to nutritional benefits has also had significant cost-saving benefits for the CBO.
MVIWATA, Tanzania	Are expected to adopt aspects of PHILA's exchange visit format to enhance the regular farmer exchanges that they facilitate. As PHILA members they already represent farmers' voices, and have generously shared their experiences and facilities (including IT centre).
INADES-formation-Tz	Are using their membership of PHILA to advance and consolidate a recently formulated policy that they should work more closely with government; INADES staff have been happy to have their repertoire of methods and tools expanded through their work with PHILA.
Singida district council, Tanzania	Has adopted aspects of PHILA's multi-stakeholder workshop approach (as carried out in Singida in July 2005) to their district agricultural strategic planning exercise; includes budget-sharing with stakeholders. DALDO's office became aware of the effectiveness of DE technology through the exchange visits (CS6), and have requested DE samples for their farmers to test.
Interco-operation, Tanzania	Submitted a proposal to the Swiss Development Cooperation in October 2005, linking proposed activities on improved grain storage systems in Tanzania and Mozambique to PHILA ; the proposal was unsuccessful because it didn't fall within Tanzanian SDC

	priority subjects.
Media, Zimbabwe	Three articles written following the PHILA Review Workshop held in Harare; 2 in the <i>New Farmer (Magazine)</i> and 1 in the <i>Daily Mirror (Newspaper)</i>
CPP Project R8349	The project, 'Improving agricultural communication strategies to meet farmers' crop protection needs in the semi-arid Central Zone of Tanzania', was involved in and has incorporated lessons learnt from the case studies 2 and 6.
PHILA members generally	Some ideas of joint proposal development have been shared within PHILA indicating impact of the doing things differently.
SWITCH (Multinational Consortium)	SWITCH is an EU, Framework 6, project addressing urban water supply, which commences in February 2006. Its approach will be to build multiple learning alliances in the various locations where it is working, and PHILA's experience will be directly incorporated into its thinking.

End-user uptake

The primary end-users of the findings will be organisational knowledge-managers throughout the national innovation systems, and equate in major part to the *intermediate end-users* referred to immediately above. In addition to these types of organisations, it is anticipated that other (non-agricultural) initiatives associated with development or research, and associated donors, will be interested in the learning alliance approach. One such initiative is the multinational SWITCH consortium (cited above), which will be implementing its work on urban water supply using a learning alliance, and already has established links with the PHILA management team.

The primary beneficiaries, assuming policy and implementation up-take of the findings and recommendations, should be farmers, including poor and vulnerable households, and with respect to the knowledge generated on DEs, commercial enterprises. The known up-take to date is given in the following table:

Organisation	Uptake indicator
Buhera & Binga district farmers, Zimbabwe	Have made use of the platform established by PHILA for their demands to be heard and for linking up with other stakeholders who can amplify their voices at higher levels in pursuit of DE availability and better service delivery.
ECOMARK Ltd	Efforts to register DEs invigorated by putting heads together with ZFU.
ZIMPHOS Ltd	Pursuing formalising modalities for local DE mining for grain protection and industrial use.
Singida & Manyoni district farmers, Tanzania	Have made use of the linkages established with strategic PHILA members through their participation in various case studies [CS2, 3, 5 & 6] and workshops, and the platform that these activities afforded them, to specify their demands for quality service provision.
Mlali district farmers, Tanzania	Have made use of the platforms afforded them by the PHILA review workshop and exchange visits (CS6) to repeat their demands for the urgent registration of the DE Protect-It, in Tanzania.
Agro Suba, Tanzania	Became aware of the effectiveness of DEs, and the potential of local DE deposits; their interest in exploiting these deposits and registration etc, have been confirmed in writing.

Knowledge

Just as innovations systems (IS) thinking is relatively new and there is no single definition for IS, the emergence of learning alliances is equally recent and the body of knowledge associated with them still in its infancy. The project has consciously adopted a learning alliance approach, using it simultaneously as an instrument of implementation and as a means to address constraints to institutional learning and change. While the study of PHILA's progress has hitherto taken a back seat to the requirements of alliance formation, and the initiation and operationalisation of its various activities, a wealth of process information has been collected and is being used to contribute to further understanding in this field.

Institutional

The thrust of this project has been to effect – or establish and initiate the means to effect – widespread change in the relationships between key post-harvest stakeholders; to address constraints in the ‘mechanisms, rules and customs by which people and organisations interact with each other’.

Formal feedback from PHILA’s membership in both Tanzania and Zimbabwe confirms that the PHILA experience has been a useful learning platform, which has included introduction to many new and useful ideas and tools (e.g. LAs, action-research methods, timelines, video diaries, relationship matrices, participatory assessment, ICT training), often through *learning by doing*, and by participative interaction with other organisations with whom they might not otherwise work. The majority also indicated that their respective organisations had already or were expected to benefit from their involvement with PHILA. Examples included: improved post-harvest practices and food production; easier collaboration with other researchers; constructive sharing of new ideas and learning opportunities; raising of organisational profile; and in Zimbabwe one specific mention was made of the use of the relationship matrix having already improved collaboration between district level stakeholders.

Policy

Reviews of the bearing of national policies and their dynamics on the post-harvest situation have stimulated significant debate amongst PHILA members. Recommendations for improving policy formulation and implementation, informed by these reviews and other findings, have been drawn up, but will require more time and advocacy to ensure up-take, and any influence has yet to be evidenced.

At district level there is evidence that the PHILA approach, and certainly specific tools, are being accommodated in local agricultural development planning exercises. Similarly there is good evidence that organisational policies have been facilitated if not changed by the PHILA experience.

Poverty and livelihoods

Individual PHILA members are well aware of the diversity to be found in rural communities. That said however, most extension practise even when asserted to be *participatory*, fails to adequately disaggregate or take into account the different circumstances, resources, needs and priorities of rural households. Through PHILA the project has promoted recognition of this diversity, and provided specific tools for identifying, and learning from, different types of households. Wide scale impact (i.e. outside the districts and communities worked in) will not have as yet been established.

Environment

The most explicit consideration of environmental impact associated with the project stems from the potential environmental impact associated with mining DEs (the focus of the parent project), and the need for ZIMPHOS Ltd., Zimbabwe, to comply with EIA regulations.

Many of PHILA’s organisations are aware of the threat that environmental degradation poses to farmers’ livelihoods and are sharing and promoting sustainable practices, while PHILA itself exists to improve the institutional environment.

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Managing Partners:

Date: 31st January 2006

William Riwa

Plant Health Services,

Ministry of Agriculture and Food Security,
Tanzania

Brighton Mvumi

Department of Soil Sciences and Agricultural
Engineering, University of Zimbabwe,
Zimbabwe

Mike Morris

Natural Resources Institute, UK

Core Partners:

ANNEXES

ANNEX I Project Logical Framework: Post-harvest innovation: Enhancing performance at the interface of supply and utilisation

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Risks or Assumptions
Goal			
National and international crop-post harvest innovation systems respond more effectively to the needs of the poor.	By 2005, a replicable range of different institutional arrangements which effectively and sustainably improve access to post-harvest knowledge and/or stimulate post-harvest innovation to benefit the poor have been validate in four regions.	Project evaluation reports. Regional Coordinators' Annual Reports. CPHP Annual Reports. CPHP Review 2005. Partners' reports.	National and international crop-post harvest systems have the capacity to respond to and integrate an increased range of research outputs during and after programme completion. National and international delivery systems deliver a range of services relevant to poor people in both focus and non-focus countries. Livelihood analysis provides accurate identification of researchable constraints or opportunities that lead to poverty reduction.
Purpose			
New knowledge is generated and promoted into how national innovation systems can be mobilised to sustain uptake and adoption of CPH knowledge for the benefit of the poor	<p>1. <u>By 2006, evidence-based strategies on how to facilitate the exchange of knowledge/information between suppliers and users documented within >2 regions, and disseminated to intermediary organisation in four regions</u></p> <p>2. <i>By 2006, CPHP outputs under all five research themes demonstrate self-sustaining extension and impact on a wider scale in >2 regions each.</i></p> <p>3. <u>By 2006, evidence-based insights on how research innovations can be introduced sustainably into local knowledge systems are disseminated to intermediary organisations in 4 regions.</u></p> <p>4. <i>By 2006, thematic synthesis of CPHP's technical outputs are disseminated to intermediary organisations in 4 regions.</i></p> <p>5. <i>By 2006, databases of partners and organisations involved in, and processes involved in management of innovation and knowledge by the CPHP are made available to intermediary organisation in 4 regions.</i></p>	1.1 and 3.1 Second generation literature of public service providers (and alliance members), both for internal consumption (briefing notes and guidelines) and for regional consumption (advisory notes, journal articles). This will be expected to consolidate and extend original thinking found in project documents (i.e. briefing papers on: learning alliances; insights to improve the performance of PH knowledge management organisations; commercial decision making as regards grain protection; farmer PH decision making; final project report; interviews with coalition team members etc). 3.2 CPHP website	Enabling environment exists for exploration of institutions, linkages and knowledge management within the organisations and institutions specified. Capacity - staffing levels and competencies - of coalition members, organisations maintained at least at current levels. Approved project funds are released as anticipated by the work plan on or before 1st January 2005. Political climate remains stable, no civil unrest. Any changes in current agricultural policies are favourable with respect to the project's objectives.
Outputs			
1. Institutional learning and change: improvements to understanding and effectiveness of learning alliances ('coalition' working – but at all levels) as agents of change, advanced .	<p>1.1 Formalised understanding of the successes and weaknesses of learning alliances (LAs) established through iterative review of project partnerships and institutional learning – process monitoring.</p> <p>1.2 Improved communications</p>	<p>1.1.1 Initial (WS1) briefing paper on learning alliances.</p> <p>1.1.2 WS2 proceedings: record of WS session on learning alliances.</p> <p>1.1.3 Synthesis report of LA review.</p> <p>1.1.4 Final briefing paper on learning</p>	Incentives (e.g. organisational & professional development; realising agent & agency aims; individual remuneration & benefits) are key to effective LAs. Risk of conflict between members due to differential in-country agency remuneration

	between expanding learning alliance (LA) partners, and particularly between different 'levels' of multi-stakeholder platforms, developed over the year.	alliances, and journal article. 1.2.1 Written and telephonic records of communications 1.2.2 Changes - increases - in alliance partners as recorded in PM and quarterly reports.	schemes (e.g. per diems <i>cf</i> fees)
2. Facilitation of in-country PH knowledge management: Practical 'insights' from current working practices developed , and improved practice recommendations generated .	2.1 Institutional analyses of state service providers and a minimum of 4 farmer-centred organisations (FCOs) in Tanzania & Zimbabwe by mid-term workshop (July). 2.2 Interface analyses of public SPs & public research, of public SPs & 'commercial' sector (e.g. agri-business) in 2 countries by mid-term WS (July). 2.3 Interface analyses of public SPs & farmers, of FCOs & farmers; and comparative analysis: for the 2 countries by mid-term WS (July). 2.4 Public SPs PHS, PHMS and Extension Services in MAFS (Tz), AREX and AETS (Zw), and FCOs in both countries, develop a better integrated (e.g. new linkages between SPs and FCOs), more responsive approach to meeting the demands of a diverse private sector (e.g. different farmer types, 'commercial' enterprises, policy makers). 2.5 Additional insights developed from exchange visits of farmers and frontline extension staff. 2.6 Review of agricultural and research policies (e.g. Agricultural Sector Development Plan (ASDP) in Tz) against study findings.	2.1.1 WS2 presentation of nodal analysis of public SPs and FCOs findings and proceedings. 2.2.1 WS2 presentation of interface analyses of public SPs & public research, of public SPs & 'commercial' sector findings and proceedings. 2.3.1 WS2 presentation of interface analyses of public SPs & farmers, of FCOs & farmers; and comparative analysis: findings and proceedings. 2.4.1 Final briefing paper on insights to improve the performance of PH KMOs. 2.4.2 Field staff and district reports. 2.4.3 Records of FBOs on levels of cooperation with public service providers. 2.4.4 Company records. 2.5.1 Interviews with farmers and extension staff involved in the exchange. Record of insights developed presented at WS3. 2.6.1 Agricultural and research policy section of the briefing paper on insights to improve the performance of PH KMOs	Progressive leadership assumed, so that any institutional reluctance to adopt reforms is overcome. Organisational commitment to policy and objectives-led thinking. Funds available to maintain current staffing levels and staff training.
3. Ability of diverse private sector players – farmers and commercial enterprises – to access and utilise relevant PH information, explored and improved .	3.1 Clusters of resource poor farmers in a number of districts identified, introduced to, and put into practice - embrace - PH information relating to a selection of PH technologies including the use of DEs. 3.2 Agri-business in at least 2 SSA countries develop business plans for the importation and/or mining, refining and distribution of DEs. 3.3 Work undertaken by marketing companies in Tz and Zw to establish the potential markets, commercial viability and public acceptability of DEs.	3.1.1 Interviews with these farmer clusters. Inspection of: farmer enquiry data collected and synthesised; briefing paper on farmer PH decision- making. 3.2.1 Interviews with these agri-business representatives. 3.2.2 Record of company business plans. 3.3.1 Study TOR and data collected. 3.3.2 Company records and press releases	Farmers' organisations in Zimbabwe remain essentially free from political constraint in this area. Commercial sector not subject to market failure, cartels, or dictates from exiting commercial interests (e.g. synthetic pesticide interests or lobby) - free market conditions exist..
4. Policy and implementation strategy recommendations to improve the performance of PH knowledge management organisations and enhance related decision-making by farmers and commercial enterprises generated and promoted .	4.1 Incorporation of DE technology into mainline agricultural sector policy. 4.2 More inclusive approach by public sector SPs to engaging with a wider selection of farmers. Finer 'match' of PH information to targeted farmer groups; more equitable and relevant targeting; monitoring outcomes suggesting SPs are reaching the more resource-poor PH. 4.3 Recommendations adopted and actioned by statutory service providers.	4.1.1 Interviews with agricultural planners. 4.1.2 Inspection of policy documents and recommendations. 4.2.1 Minutes from meetings of 'new' statutory provider working groups. 4.2.2 Minutes of FCOs' meetings. 4.3.1 Government memoranda and other official documents.	Policy advisers and policy-makers not 'distracted' or exclusively taken up with multilateral donors and/or the appeal of bigger-scale initiatives and associated funds.

Activities

1. Institutional learning and change:

- 1.1 Preparatory administration for the inception workshop.
- 1.2 Draft & circulate briefing paper on 'learning alliances' for inception WS.
- 1.3 Holding inception workshop (DSM-Morogoro-Dodoma?) in mid-late Feb, and reporting of WS sessions.
- 1.4 Review performance of 'learning alliance' between WS1 & WS2.
- 1.5 Preparatory administration for the 2nd 'learning alliance' workshop.
- 1.6 Holding second workshop (DSM-Morogoro-Dodoma?) in late June / early July, and reporting of WS sessions.
- 1.7 Synthesis of learning on 'learning alliance' produced between WS2 & final WS.
- 1.8 Preparatory administration for the 3rd 'learning alliance' workshop.
- 1.9 Holding final workshop (DSM-Morogoro-Dodoma?) in early December, and reporting of WS sessions.
- 1.10 Production of paper on: 'Learning alliances: institutional learning and change'.

2. Improving performance of in-country KMOs:

- 2.1 Commission, draft and circulate briefing paper on institutional analysis.
- 2.2 Scoping exercise to consolidate selection criteria and choice of study districts.
- 2.3 Methodological development, draft TOR and commission studies.
- 2.4 Implement 'nodal' analyses of SPs, report study and findings.
- 2.5 Implement interface analyses of SPs and PSR, and of SPs and commercial enterprises, report study and findings.
- 2.6 Implement interface (and comparative) analyses of public SPs & farmers, and of FCOs and farmers; report study and findings.
- 2.7 Review of study findings by alliance at workshop.
- 2.8 Identify, commission and implement further study of researchable constraints, gaps identified; report study and findings.
- 2.9 Produce synthesis of component studies and briefing paper; circulate to alliance members.
- 2.10 Review of briefing paper at session of final workshop.

3. Private sector access and utilisation of PH information

- 3.0 Interface analysis under output 2 involve triangulation interviews with commercial sector.
- 3.1 Commissioning and training for systematic PH household study.
- 3.2 Use of enquiry tool with HHs in study villages in the 2 districts; initial and repeat visits.
- 3.3 Methodological development, draft TOR and commissioning of 'people' focused programmes (e.g. HIV/AIDS and PHC programmes).
- 3.4 Implement 'people' focused study; report and circulate study and findings.
- 3.5 Farmer & front line extn staff exchange visits.
- 3.6 Analysis of enquiry visit findings.
- 3.7 Synthesis report and briefing paper on farmer PH decision-making, based on enquiry work, 'people' focused study, and exchange visits produced and circulated.
- 3.8 Review of briefing paper at session of final workshop.

4. Generation & promotion of policy recommendations

- 4.1 Literature reviews on PH policy experience, advice and formulation, both generally and specific to the region/s.
- 4.2 Short synthesis report based on literature reviews and main findings (synthesis reports) from outputs 1, 2 and 3, produced by core team prior to final workshop.
- 4.3 Review of synthesis report by alliance at session of final workshop, and initial policy recommendations generated.
- 4.4 Sets of policy recommendations refined by core team.
- 4.6 Promotional meeting for key national agricultural innovation system players.
- 4.7 Promotional activities based on the learning alliance approach but with practical potential at district and community levels (e.g. farmer PH networking, forums for farmers to evaluate service delivery, 'competitions' to engage schools and students, participatory video).
- 4.8 Production of project final report.

ANNEX II Partner (user) organisations' work-plans for adopting project outputs

The purpose of the project was to generate and promote new knowledge as to how national innovation systems could be better mobilised to sustain the uptake and adoption of crop post-harvest knowledge for the benefit of the poor. In the learning alliance approach *knowledge* is viewed as a *process* of learning rather than as a content or *product*, and is characterised by relationships, communication and context. Making available this knowledge – the project outputs – to intended users has been achieved through *engagement* with those users and learning together.

The main focus of engagement has been with and through the learning alliance: members (and other stakeholders) working and learning together through selective collaborative research initiatives, with built-in action-reflection and information-sharing cycles. To scale-up and scale-out these ideas requires a further level of engagement strategy, which together with collaborative research and internal information sharing, is one of PHILA's core activities, *engagement* – influencing those key external stakeholders who can bring about change in the system. To some extent individual members have spontaneously and already through the course of their work sought to influence such people. The management team however has been working to consolidate this approach, firstly by identifying these key stakeholders (see Box A), and secondly by ensuring that engagement strategies already set out in the project memorandum are incorporated and further developed in PHILA's strategic planning.

Box A. Key Tanzanian and Zimbabwean stakeholders with whom PHILA needs to build and foster relationships

Tanzanian stakeholders

- those who are in a position make decisions or effect changes in policy and practice (e.g. policy makers, district councillors and service providers, innovative farmers);
- those who can influence these decision-makers directly (e.g. private sector companies);
- those in civil society who can bring pressure to bear on decision-makers (e.g. MVIWATA, INADES etc);
- those who can support, reinforce and strengthen PHILA's recommendations (e.g. training and research organisations [ICE, SUA, ARIs], financial organisations [SACCOS] etc);
- those in the media who provide a means by which the alliance can reach the public; and
- the donor community, who can finance and support PHILA's activities.

Zimbabwean stakeholders

- those who are in a position to make decisions or effect changes in policy and practice (e.g. policy makers, district councillors and service providers, innovative farmers);
- those who can influence these decision-makers directly (e.g. private sector companies);
- those in civil society who can bring pressure to bear on decision-makers (e.g. ZFU, ICFU, CRS, SC UK, KMTC, NFNZ);
- those who can support, reinforce and strengthen PHILA's recommendations (e.g. AREX, UZ, PPRI, AETS, agricultural research institutes etc);
- those in the media who provide a means by which the alliance can reach the public eg Newspapers/Magazines, TVs, Radios etc; and
- the donor community, who can finance and support PHILA's activities.

Some of these stakeholders may already be members of the alliance, but many others will be outside the alliance, suggesting either enrolment or engagement initiatives.

Initial strategic action plans to ensure the continuation of PHILA were drafted by members at the two review workshops, and various funding proposals have been outlined by the management team. Full details of these strategic action plans can be obtained from the Tanzanian and Zimbabwean PHILA review workshop reports.

ANNEX III Copies of diaries, coalition meeting reports etc

No specific diary was kept. Most communication exchange between PHILA members occurred either through: e-mail exchanges; text messages; numerous face to face meetings; electronic iterations of case study documents; or during the inception, district and review workshops in both Tanzania and Zimbabwe. The e-mail exchanges and electronic iterations of case study document have not been collated into one document as they are so many, if required electronic copies of each of them can be obtained from the PHILA project management team. Detailed reports of the inception, district and review workshops were written and details of these are included in Annex V. They have been submitted to the Crop Post Harvest Programme, and will shortly be available on the PHILA website <http://www.nri.org/PHILA/>

ANNEX IV Feedback on the process from Partners and users

During the PHILA review workshops in both Tanzania and Zimbabwe, PHILA members were asked to come up with questions to help assess PHILA's performance to data in undertaking its main activities of collaborative research activities; information-sharing; engagement with other key stakeholders; and management activities. The questions were incorporated into a questionnaire which PHILA members then completed. Analysis of the findings of this questionnaire are given in detail in the Review workshop reports from both countries, details of which are included in Annex V, have been submitted to the Crop Post Harvest Programme and will shortly be available on the PHILA website <http://www.nri.org/PHILA/>. The spreadsheets analysing the data can additionally be provided by the management team.

ANNEX V Tabulated description of disseminated outputs

Publications:

MHAZO N., MVUMI B. M., NAZARE, R. M. and NYAKUDYA, E. (2006) Agro processing in Southern Africa: the case of small and medium enterprises in Zimbabwe. The Harvester Special Edition, CPHP Southern Africa. *Submitted*.

MORRIS M. J., MVUMI B. M., RIWA W. H. and STATHERS T. E. (2005) Post-harvest innovation to improve food security in Tanzania and Zimbabwe: Learning alliance lessons, pp 99-109. In: *Proceedings of Symposium on Learning Alliances for Scaling up Innovative Approaches in the Water and Sanitation Sector, Delft, the Netherlands. 7-9 June 2005*. Smits, S., Fonseca, C. and Pels, J. (Eds.) IRC International Water and Sanitation Centre, Delft, the Netherlands. Hard copies and also published on the IRC website: <http://www.irc.nl/page/24792/offset/10>

Internal Reports:

CHIRWA, Y, MUTSA, M and ZABA, P. (2005) Case Study 2 Methodology Proposal: Comparative analysis of how Public Service Providers (PSPs) work with farmers and how Farmer Centred Organisations (FCOs) work with farmers (with a post-harvest focus) [Zimbabwe], 6 pp.

HANYANI-MLAMBO, B. T., JERA, R. and DUBE, T. (2005) Case Study 8 Methodology Proposal: Reviewing Policy and Associated Processes to Better Understand the Implications for Post-Harvest Practice: A Zimbabwean Case Study. [Zimbabwe], 7 pp.

HANYANI-MLAMBO, B. T., MUDIMU, G. D., JERA, R. and DUBE, T. (2005) Reviewing Policy and Associated Processes to Better Understand the Implications for Post-Harvest Practice. [Case Study 8, Zimbabwe]. Iterative draft 1. 28 pp.

MAGAYANE, F. and RWAMBALI, E. G. (2005) Case Studies 1 and 7: Methodology Proposal, 6 pp.

MAGAYANE, F. and RWAMBALI, E. G. (2005) Analysis of the interface between post-harvest service provision and public research. [Case Study 1 including Case study 7, Tanzania]. Iterative draft 1. 29 pp.

MANO, R. (2005) Case Study 8 Methodology Proposal: Critical review of current agricultural policies and institutional practices in the national post harvest innovation system [Zimbabwe], 6 pp.

MHAZO N., MVUMI B. M., NAZARE, R. M. and NYAKUDYA, E. (2005) The status of the agro-processing industry in Zimbabwe with particular reference to small and medium enterprises. [Case Study 9, Zimbabwe]. Iterative draft 2. 19 pp.

MJAWA, B. and MATHIAS, D. (2005) Case Study 4 Methodology Proposal: Exploring empowerment initiatives [Tanzania], 3 pp.

MJAWA, B., MINJA, R. and MATHIAS, D. (2005) Exploring empowerment initiatives in Tanzania. [Case Study 4, Tanzania]. Iterative draft 2.

MORRIS, M. (2005) Terms of Reference Project final workshop in Tanzania. (first iteration).3 pp

MORRIS, M., MVUMI, B., RIWA, W. and STATHERS, T. (2005) R8460: Post-Harvest Innovation: Enhancing performance at the interface of supply and utilisation. Series of quarterly and annual reports submitted to the Crop Post Harvest Programme.

MORRIS M., MVUMI B. M., STATHERS T. E. and RIWA W. H. (2005) Action points to advance the 'case studies' associated with Output 2 (institutional analyses) and Output 3 (farmer focused studies).

MORRIS, M. and RIWA, W. (2005) Terms of Reference for project Case Study 1: Analysis of the interface between post harvest public service provision and public research. 5 pp. (first iteration). (TOR for Case Study 7: Exploration of the interface between public sector provision and research with those private sector companies producing and distributing storage protectants is subsumed within Case Study 1).

MORRIS, M., RIWA, W., MVUMI, B. and STATHERS, T. (2005) Terms of Reference for project Case Study 2: Comparative analysis of how public service providers (PSPs) work with farmers and how farmer-centred organisations work with farmers. 5 pp. (first iteration).

MORRIS, M., RIWA, W., MVUMI, B. and STATHERS, T. (2005) Terms of Reference for project Case Study 4: Exploring empowerment initiatives. 3 pp. (first iteration).

MORRIS, M., STATHERS, T., MVUMI, B. (2005) Assessing the performance of PHILA-Tanzania: an analytical framework, 11 pp. (2nd Iteration)

MORRIS, M., STATHERS, T., MVUMI, B. and RIWA, W. (2005) Terms of Reference for project Case Study 8: Reviewing Policy and associated processes to better understand the implications for Post-Harvest practice. 2 pp. (first iteration).

MVUMI, B., MHAZO, N. and MORRIS, M. (2005) Terms of Reference for project Case Study 9: Reviewing agro-processing in relation to small and medium enterprises. 2 pp. (first iteration).

MVUMI, B., RIWA, W., MUCHEMWA, M., MATSVANGE, D., MAPANDA, T. T., MORRIS, M., MUSENDO, B., MARONGWE, L. S. and MUSHORE, K. (2005) Analysis of post-harvest service provision in Binga and Buhera Districts of Zimbabwe. [Case Study 3, Zimbabwe]. Iterative draft 1.

MWANGA, J. and LAMECK, P. (2005) Case Study 2: Proposed Guideline for data collection, synthesis and documentation [Tanzania], 5 pp.

MWANGA, J. and LAMECK, P. (2005) Comparative analysis of how public service providers (PSPs) and farmers centred organisations work with farmers in semiarid central Tanzania (With post-harvest

focus). [Case Study 2, Tanzania] Iterative draft 1. 27 pp

RIWA, W. STATHERS, T., MORRIS, M., MVUMI, B., GASANA, D. and MATHIAS, D. (2005) Analysis of post-harvest service provision in Singida and Manyoni Districts of Tanzania. [Case Study 3, Tanzania]. Iterative draft 1.

SEMGALAWE, S. (2005) Case Study 8 Methodology Proposal: Technical and financial proposal for policy review [Tanzania], 4 pp.

SEMGALAWE, S. (2005) Reviewing Policy and Associated Processes to Better Understand the Implications for Post-Harvest Practice. [Case Study 8, Tanzania]. Iterative draft 1.

SOROTI, Z. and ZHEKE, H. (2005) Case Study 4 Methodology Proposal: Exploring empowerment initiatives [Zimbabwe], 14 pp.

SOROTI, Z. and ZHEKE, H. (2005) Exploring empowerment initiatives in Zimbabwe. [Case Study 4, Zimbabwe]. Iterative draft 2.49 pp.

STATHERS, T. (2005) Initial instructions for using track changes for editing of word documents. Natural Resources institute, Chatham, UK. 2 pp.

STATHERS, T., LAMBOLL, R., MORRIS, M., MVUMI, B. and RIWA, W. (2005) Terms of Reference for project Case Study 6: Farmer and frontline extension staff exchange visits. 4 pp. (first iteration)

STATHERS, T. and RIWA, W. (2005) Farmer and frontline extension staff exchange visits. [Case Study 6, Tanzania] Iterative draft 2 35 + xviii pp.

ZABA, P. and MUCHEMWA, M. (2005) Comparative analysis of how public service-providers (PSPs) work with farmers and how farmer-centred organisations (FCOs) work with farmers (with a post-harvest focus). [Case Study 2, Zimbabwe]. Iterative draft 2. 23 pp.

Other Dissemination of Results:

ANON. (2005) Bloggers bite back (attributed and non-attributed comments). *The LA Insider*, 9 June 2005. p. 4. [Delft, the Netherlands]

ANON. (2006) Tips on post-harvest grain storage. *New Farmer*, 11, 12, 43. January 2006. Article based on presentations at the PHILA Review Workshop, Mandel Training Centre, Harare. 13-14, December, 2005.

ANON. (2006) Farmers hindered from ensuring food security. *Daily Mirror*, page B2. Thursday 15 December, 2005. Article based on presentations at the PHILA Review Workshop, Mandel Training Centre, Harare. 13-14 December, 2005.

CPHP (2005) New from the mill: a decade of researching, sharing, learning, and..... *The Harvester*, 2, 1, April-June 2005. p. 14. [CPHP, Southern Africa]

MJAWA, B. and GASSANA, D. R. (2005) DE components incorporated in Post-harvest training courses conducted in the Southern Highlands (Mbeya, Iringa, Rukwa and Ruvuma) on 2-8 May 2005 [115 participants; Kishwahili] and Central Zone (Morogoro and Tanga) on 2-8 May 2005 [56 participants; Kiswahili]. Ms Mjawa and Mr Gassana are PHILA members.

MORRIS M., MVUMI B. M., RIWA W. H. and STATHERS T. E. (2005) Post-harvest innovation to improve food security in Tanzania and Zimbabwe: Learning alliance lessons. Oral presentation at Symposium on Learning Alliances for Scaling up Innovative Approaches in the Water and Sanitation Sector, Delft, the Netherlands. 7-9 June 2005. [20 power point slides] Available on the IRC website <<http://www.irc.nl/page/24748/>>.

MORRIS, M., MVUMI, B., STATHERS, T. and RIWA, W. (2005) Improving the uptake and adoption of

post-harvest knowledge by end-users and especially poorer farmers. University of Zimbabwe, Harare, Zimbabwe [Briefing note] (in prep.).

MORRIS M., RIWA W. H., MVUMI B. M. and STATHERS T. E. (2005) Post-Harvest Innovation Learning Alliance (PHILA) in Tanzania. Flyer Specific to Tanzania. 2 pp. (first iteration) <<http://www.nri.org/PHILA/>>

MORRIS, M., RIWA, W., STATHERS, T. and MVUMI, B. (2005) Improving the uptake and adoption of post-harvest knowledge by end-users and especially poorer farmers. Ministry of Agriculture and Food Security, Dar-es-Salaam, Tanzania [Briefing note] (in prep.)

MORRIS, M., STATHERS, T., MVUMI, B., GASANA D., RIWA, W. and MATHIAS, D. (2005) Post-Harvest Innovation Learning Alliance (PHILA): Review Workshop - Tanzania. Report of a Workshop organised by the PHILA management team, Plant Health Services (Tanzania), the Natural Resources Institute (UK) and the University of Zimbabwe, from the 23rd to the 25th November 2005, at the Moslem University of Morogoro, Morogoro, Tanzania. < <http://www.nri.org/PHILA/>>

MORRIS, M., STATHERS, T., MVUMI, B. and RIWA, W. (2005) Post-Harvest Innovation Learning Alliance (PHILA): Inception Workshop. Report of a Workshop organised by the PHILA management team, Plant Health Services, the Natural Resources Institute (UK) and the University of Zimbabwe, from the 15th to the 17th March 2005, at Sokoine Agricultural University, Morogoro, Tanzania. 34pp. <<http://www.nri.org/PHILA/>>.

MORRIS, M., STATHERS, T., RIWA, W., MNANENTO, B., and MNKABENGA, F. (2005) Post-harvest provision and practises in Singida and Manyoni districts: The way ahead. Ministry of Agriculture and Food Security, Dar-es-Salaam, Tanzania. [Briefing note] (in prep.).

MORRIS, M., STATHERS, T., RIWA, W. and MVUMI, B. (2005) Doing things differently: the Post-Harvest Innovation Learning Alliance. < <http://www.nri.org/PHILA/>>. [Website] [English]

MORRIS, M., STATHERS, T., RIWA, W. and MVUMI, B. (2005) Doing things differently: Technical and institutional options for Post-Harvest Innovation (Projects R7034, R8179 & R8660). Poster presented at a DFID workshop, organised by CPHP, on Knowledge is the Key to the Future: Improving the productivity of Smallholder Farmers in Southern Africa. Wild Geese Lodge, Harare. 27-29 September, 2005. [Attended by 115 national and international participants.] <<http://www.nri.org/PHILA/>>

MORRIS, M., STATHERS, T., RIWA, W. and MVUMI, B. (2005) Doing things differently: Technical and institutional options for Post-Harvest Innovation (Projects R7034, R8179 & R8660). Rolling powerpoint presentation at a DFID workshop, organised by CPHP, on Knowledge is the Key to the Future: Improving the productivity of Smallholder Farmers in Southern Africa. Wild Geese Lodge, Harare. 27-29 September, 2005. [Attended by 115 national and international participants.]

MUTENGA, T. (2006) Ensuring food security for rural families. New Farmer, 11, 12, 18. January 2006. Article based on presentations at the PHILA Review Workshop, Mandel Training Centre, Harare. 13-14, December, 2005.

MVUMI, B., MORRIS, M., MUSHAYAPOKUVAKA, J. K. and MOYO, V. (2005) Post-harvest provision and practices in Binga and Buhera districts: The way ahead. University of Zimbabwe, Harare, Zimbabwe. [Briefing note] (in prep.).

MVUMI B., MORRIS M. and RIWA W. H. (2005) Post-Harvest Innovation Learning Alliance (PHILA): Inception Workshop - Zimbabwe. Report of a Workshop organised by the PHILA management team, the University of Zimbabwe, the Natural Resources Institute (UK) and Plant Health Services (Tanzania) from the 10th to the 12th May 2005, at the Institute of Agricultural Engineering Training Centre, Hatcliffe, Harare, Zimbabwe. 30 pp. <<http://www.nri.org/PHILA/>>.

MVUMI B. M., MORRIS M., STATHERS T. and RIWA W. H. (2005) Post-Harvest Innovation Learning Alliance (PHILA). International Flyer. University of Zimbabwe, Harare 2 pp. (second iteration)

MVUMI B. M., MORRIS M. J., STATHERS T. E. and RIWA W. H. (2005) Post-Harvest Innovation Learning Alliance (PHILA) in Zimbabwe. Flyer specific to Zimbabwe. University of Zimbabwe, Harare. 2 pp. <<http://www.nri.org/PHILA/>>

MVUMI, B., STATHERS, T., MHAZO, N., SOROTI, Z., MWANGA, J., MARONGWE, L. S. and MORRIS, M. (2005) Post-Harvest Innovation Learning Alliance (PHILA): Review Workshop - Zimbabwe. Report of a Workshop organised by the PHILA management team, the University of Zimbabwe, the Natural Resources Institute (UK) and Plant Health Services (Tanzania), from the 13th to the 14th December 2005, at the Mandel Training Centre, Marlborough, Harare, Zimbabwe. <<http://www.nri.org/PHILA/>>.

STATHERS, T., MORRIS, M., RIWA, W. and MVUMI, B. (2005) Learning lessons from farmer-to-farmer learning. Ministry of Agriculture and Food Security, Dar-es-Salaam, Tanzania. [Briefing note] (in prep.).

STATHERS T., RIWA W. H., MVUMI B. M. and MORRIS M. J. (2005) Engaging the Private Sector in the Promotion of Diatomaceous Earths. Report of a meeting to engage the private sector and other stakeholders in the registration and promotion of diatomaceous earths as grain protectants in Tanzania. 22nd March 2005, Plant Health Services, Dar es Salaam. 30 pp. <<http://www.nri.org/PHILA/>>.

In addition:

One international NGO based in Zimbabwe submitted a proposal to EU for funding in November 2005. The proposal incorporated the Learning Alliance approach in solving post-harvest constraints within a larger livelihoods framework.

The Swiss NGO Interco-operation submitted a proposal to the Swiss Development Cooperation in October 2005, linking proposed activities on improved grain storage systems in Tanzania and Mozambique to PHILA (unfortunately the proposal was unsuccessful because it didn't fall within Tanzanian SDC priority subjects).

Listing and reference to key data sets generated:

Data set	Location
R8460 Exchange visit video diary footage	Originals with Job Mika jobumika@yahoo.com
R8460 Exchange visit photographs	Originals with participants, electronic copies with Tanya Stathers TStathers@aol.com and Job Mika. Analysed data on the photographs with Tanya Stathers.
R8460 Photographic collections	Electronic originals with Mike Morris, Tanya Stathers and William Riwa.
R8460 – PHILA Tanzania Assessment Questionnaires	Originals with William Riwa, electronic copies and analysed data with Mike Morris and summary included in Tanzania workshop report.
R8460 – PHILA Zimbabwe Assessment Questionnaires	Originals with Brighton Mvumi, electronic copies and analysed data with Tanya Stathers and summary included in Zimbabwe workshop report.
R8460 Relationship matrices for Singida and Manyoni district service provision	Originals with respective DALDOs, electronic copies included in CS3 report for Tanzania.
R8460 Relationship matrices for Binga and Buhera district service provision	Originals with respective DAEOs, electronic copies included in CS3 report for Zimbabwe.

ANNEX VI ACRONYMS and ABBREVIATIONS

AEOW	Agricultural Extension Officer/Worker (Zimbabwe)
AES	Agricultural Extension Specialist (Zimbabwe)
ACFD	African Centre for Fertiliser Development (Zimbabwe)
AMSDP	Agricultural Marketing Sector Development Programme
ARDA	Agricultural and Rural Development Authority, Zimbabwe
AREX	Department of Agricultural Research and Extension (Zimbabwe)
ARI	Agricultural Research Institute
ASDP	Agricultural Sector Development Programme
ASDS	Agricultural Sector Development Strategy
ATTT	Association of Tanzania Tobacco Traders
CADEC	Catholic Development Commission (Zimbabwe)
CAMPFIRE	Communal Areas Management Programme (Zimbabwe)
CARITAS	Catholic Development Organisation
CBO	Community Based Organisation
CDO	Community Development Officer
CEO	Chief Executive Officer (Zimbabwe)
CFU	Commercial Farmers Union (Zimbabwe)
CPHP	Crop Post-Harvest Programme
CPP	Crop Protection Programme
CPS	Crop Promotion Services
CRS	Catholic Relief Services (Zimbabwe)
CS	Case Study
DADPS	District Agricultural Development Plans
DAE	District Agricultural Engineer (Zimbabwe)
DAEO	District Agricultural Extension Officer
DAETS	Department of Agricultural Engineering & Technical Services (Zimbabwe)
DALDO	District Agriculture and Livestock Development Officer
DA	District Administrator (Zimbabwe)
DAS	District Agricultural Strategy
DC	District Commissioner
DCDO	District Community Development Officer
DCO	District Crops Officer
DEs	Diatomaceous earths
DED	District Executive Director
DEO	District Extension Officer
DFID	Department for International Development (UK)
DPO	District Planning Officer
DPPO	District Plant Protection Officer
DTC	Development Technology Centre (Zimbabwe)
EC	Emulsifiable concentrate
EIA	Environmental Impact Assessment
FACHIG	Farmers Association of Chiefs/ Headmen Investment Group
FCOs	Farmer Centred Organisations
FDC	Folk Development College
FEPU	Farmers Education and Publicity Unit
FFS	Farmer Field School
FGDs	Focus Group Discussions
FIK	Farmer Indigenous Knowledge
FSD	Food Security Department
GMB	Grain Marketing Board
GoT	Government of Tanzania
HAPA	Health Action Promotion Association
HH	Household

HIV&AIDS	Human Immunodeficiency Virus & Acquired Immune Deficiency Syndrome
HPI	Heifer Project International (Zimbabwe)
IAE	Institute of Agricultural Engineering (Zimbabwe)
ICE	Institute of Continuing Education
ICFU	Indigenous Commercial Farmers Union (Zimbabwe)
ICRISAT	International Crop Research Institute for the Semi-Arid Tropics
ICT	Information Communication Technologies
IK	Indigenous knowledge
INADES	Institut Africain pour le Developpement Economique et Social
IPM	Integrated Pest Management
IRC	International Water and Sanitation Centre
ITK	Indigenous technical knowledge
IS	Innovation System
KMTC	Kulima Mbobumi Training Centre (Zimbabwe)
LA	Learning Alliance
LEISA	Low External Input and Sustainable Agriculture
LGA	Local Government Authority
LPRI	Livestock Production Research Institute, Mpwapwa
MAFS	Ministry of Agriculture and Food Security
MARD	Ministry of Agriculture and Rural Development (Zimbabwe)
MCM	Ministry of Cooperatives and Marketing
MCOBA	Mshikamano Community Based Organisation
MT	Management Team
MVIWATA	Mtandao wa vikundi vya wakulima Tanzania (Apex organisation for small-scale farmers' networks)
MYDEC	Ministry of Youth, Development, Gender and Employment Creation (Zimbabwe)
NALRS	National Agriculture and Livestock Research Scientist
NFN	Natural Farming Network (Zimbabwe)
NGO	Non governmental organisation
NIS	National Innovation System
NPPC	National Plant Protection Committee
NRI	Natural Resources Institute (UK)
NRSP	Natural Resources Systems Programme
O&OD	Obstacles and Opportunities for Development
OPRA	Open Performance Review Appraisal
Output/s	The change/s (e.g. in knowledge, practices) to be effected by the project
OVI	Objectively Verifiable Indicator
PADEP	Participatory Agricultural Development and Empowerment Project
PAE	Provincial Agricultural Engineer
PH	Post Harvest
PHILA	Post-Harvest Innovation Learning Alliance
PHMS	Post-Harvest Management Services
PHS	Plant Health Services
PM	Project Memorandum
PPO	Plant Protection Officer
PPRI	Plant Protection Research Institute
PRA	Participatory Rural Appraisal
PRSP	Poverty Reduction Strategy Paper
PS	Private Sector
PSP	Public Service Provider
PSR	Public Service Research
RAA	Regional Agricultural Advisor
RAAKS	Rapid Appraisal of Agricultural Knowledge Systems
RDC	Rural District Council (Zimbabwe)
SACCOS	Savings and Credit Cooperatives

SC	Steering Committee
SC UK	Save the Children UK (Zimbabwe)
SEMA	Sustainable Environmental Management Activities
SIDO	Small Industry Development Organisation
SMEs	Small to Medium Enterprises
SMS	Subject Matter Specialist
SP	Service Provider
SSA	Sub Saharan Africa
SUA	Sokoine University of Agriculture
TACAIDS	Tanzanian Commission for AIDS prevention
TASAF	Tanzania Social Action Fund
TCCIA	Tanzania Chamber of Commerce, Industry and Agriculture
TFA	Tanganyika Farmers Association
TOR	Terms of Reference
TPRI	Tropical Pesticides Research Institute
UKUN	Uhakika Kituo cha Ushauri Nasaha
UNESCO	United Nations Education, Scientific and Cultural Organisation
UZ	University of Zimbabwe
VAEO	Village agricultural extension officer
VEO	Village extension officer / bwana shamba
VICOBA	Village Community Bank
WAEO	Ward Agricultural Extension Officer
ZCO	Zonal Communications Officer
ZESA	Zimbabwe Electricity Supply Authority
ZFU	Zimbabwe Farmers Union
ZRELO	Zonal Research Extension Liaison Officer