

CROP PROTECTION PROGRAMME

The Good Seed Initiative (GSI) – sharing the learning from CPP programmes into pro-poor seed systems in East Africa

R No. 8480 (ZA No. 0690)

FINAL TECHNICAL REPORT

1 April 2005 – 31 January 2006

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FTP Completed January 2006

This publication is an output from a research project funded by the United Kingdom Department for International Development for the benefit of developing countries. The views expressed are not necessarily those of DFID. DFID Project Reference Number R8480 Crop Protection Programme.

Executive Summary

Farmer-saved and farmer-traded seed (i.e. the informal seed sector) is, and for the foreseeable future will continue to be, the major source of seed of staple crops in sub-Saharan Africa. Farmers consider their own seed (farmer-saved) or that of their social network (farmer-traded) to be readily available, affordable and trusted, however, it is prone to disruption as a result of natural and civil upheavals, drought, pests and diseases. Moreover, whilst the genetic traits of seed in the informal sector may be favourable for certain conditions or uses, it does not necessarily benefit from the higher yield potential, pest/disease resistance or tolerance to a range of physical conditions, available in improved, commercial varieties i.e. the formal seed sector.

Recognising the important and vital role played by the informal seed sector, in 2003 CAB International (CABI) launched the 'Good Seed Initiative' (GSI) - a global initiative that seeks to strengthen the capacity of small-holders to source, produce, manage and disseminate seed, and thereby contribute to food security and improved livelihoods. The GSI was launched in East Africa at the GSI Morogoro Workshop (CABI, 2003), funded by the Swiss Development Agency and co-ordinated by CABI's Africa Regional Centre (CABI-ARC).

Over the past 10 years, the Crop Protection Programme (CPP) and the Crop Post Harvest Programme (CPHP) of the Department for International Development have, together with other donors, supported numerous projects which have generated seed-related research outputs on ways to produce and manage good seed, to promote new varieties and the *in situ* conservation of indigenous agro-biodiversity. CABI-ARC has had a key role in, and enjoys effective links with, a number of these seed-related projects in Africa. By sharing the learning from these and other projects with the GSI, the current project which is led by CABI-ARC and funded by the CPP, aims to produce key dissemination outputs and provide an important dissemination pathway for the accelerated uptake of seed-related outputs by poor farmers in East Africa.

Dissemination outputs resulting from this project include a published review of key seed-related research outputs from CPP/CPHP and other donor-funded projects, and the publication of a participatory training manual, 'Discovery-Learning Exercises for improving the quality, health and dissemination of farmer-saved & farmer-traded seed in East Africa'. These, together with three, farmer-friendly posters, also produced by the project and disseminated via GSI through its national steering committees and workshops, and other regional networks e.g. ASARECA have succeeded in raising awareness of the importance of seed in the informal seed sector. Through simple messages concerning key seed-management practices, the project aimed to improve the uptake of seed-related research outputs by poor farmers in East Africa.



Background

Farmer-saved and/or farmer-traded seed continues to be the dominant source of seed for 80-90% of farmers in Sub-Saharan Africa (SSA) (Walker and Tripp, 1997, Friis-Hansen, 1999; Sperling, 1999; Tripp, 2001; Morogoro Workshop, 2003). Typical examples of the so-called 'informal seed sector' can be found in Kenya, where only 1% of bean (a staple source of protein) seed is purchased as commercial varieties through the formal seed sector (CABI, 2005a), and 92% of farmers expressed a preference for farmer-saved (74.4%) or farmer-traded (17.6%) seed in a recent socio-economic survey of kale farmers in Kiambu District (Spence, *et al.*, 2005). Despite such statistics, laws governing seed in many developing countries e.g. the Kenyan 'Seeds and Plant Varieties Act' (CAP 326) still do not officially recognise the informal seed sector.

Farmers consider their own seed (farmer-saved) or that of their social network (farmer-traded) i.e. neighbours, friends and relatives, to be readily available, affordable and trusted. The informal seed sector also includes NGOs, CBOs and farmer groups e.g. ICRISAT's Producer-Marketing Groups who multiply seed for distribution to farmers, and farmers who specifically produce seeds for their own future use (*c.f.* those who simply save seed from their harvested crop) (Lutta *et al.*, 2003). The supply of farmer-saved and farmer-traded seed is, however, prone to disruption as a result of natural and civil upheavals, drought, pests and diseases (both on-farm and in storage). Moreover, whilst the genetic traits of seed in the informal sector may be favourable for certain conditions or uses, it does not necessarily benefit from the higher yield potential, pest/disease resistance or tolerance to a range of physical conditions, available in improved, commercial varieties i.e. the formal seed sector.

Despite farmers' interest in improved, commercial varieties and efforts to establish new seed systems, the relatively high cost of, and/or poor access to such material precludes its use by most farmers, especially poor farmers living in rural communities. The distribution of improved varieties is rarely backed by appropriate systems or schemes e.g. micro-credit, which could strengthen/support the purchasing power of small-holder farmers to enable the creation of commercial seed supply networks along more conventional lines. Nevertheless, a number of alternative models for seed systems are currently being explored in the region and there are moves to standardise seed legislation across the region. In the absence of prior farmer awareness of the value to be gained from using good seed and good seed management practices, however, even national bodies recognise that it will continue to be a challenge for such systems to expand and become self-sustaining.



Recognising the important and vital role played by farmer-saved and/or farmer-traded seed in improving food security and poverty reduction, in 2003 CAB International launched the 'Good Seed Initiative' (GSI). The GSI is a global initiative that seeks to strengthen the capacity of small-holders to source, produce, manage and disseminate seed and planting material for their own and their dependents' food security and improved livelihoods. The overall objectives of the GSI are: i. Improvements to the quality (health, purity, viability and freedom from contaminants) and value of farmer-saved and farmer-traded seed; ii. Building farmer-centred seed systems, enabling the poor to access and benefit from seed/planting materials external to their community; and iii. Sharing the lessons with, and learning from those in local, national and regional seed systems and policies (see www.gsi-cabi-bioscience.org and Annex 1). With initial funding provided by the Swiss Development Cooperation (SDC), the GSI is co-ordinated globally by CAB International's UK Centre (CABI-UKC) and in Africa by CABI's Africa Regional Centre (CABI-ARC), based in Nairobi. The GSI works effectively through established links with International (CIMMYT, ICRISAT, CIMMYT and CIAT), Regional (ASARECA, WASNET) and national partners in SSA, South Asia and to a lesser extent Latin America.

East Africa was selected as an initial focus for the pilot development of the GSI because of a clear demand expressed by national programmes and NGOs for strengthening existing seed systems, coupled with a strong representation by the same countries in existing networks (involving the same key partner organisations), which have been established, or are co-ordinated, by CABI-ARC. The GSI was subsequently launched in East Africa at the GSI Morogoro Workshop in 2003 (CABI, 2003), attended by a range of stakeholders representing International Agricultural Research Organisations (IARCs), National Agriculture Research Stations (NARS), Universities, seed trade and farmer organisations from throughout East Africa. The workshop highlighted constraints to the quality and health of farmer-produced seed coupled with the need for greater farmer awareness of seed and its value, as barriers to progress in the informal seed sector. Result sharing and dissemination/scaling-up was also identified as a major weakness across the three countries and it was recommended as being the main entry point to improving the informal seed sector. The demand for quality seed in the informal sector has also been recognised in socio-economic studies undertaken for a number of donor-funded vegetable projects (e.g. R7571, R8312 and R8439), notably in Kenya. In order to make improvements to informal (farmer-saved and farmer-traded seed) seed systems, the knowledge and technologies generated in research projects on seed related issues, should be made available to farmers, seed traders and regulators, researchers, extensionists, and policy makers.

Over the past 10 years, the Crop Protection Programme (CPP) and to a lesser extent, the Crop Post Harvest Programme (CPHP) of the Department for International Development (DFID) have supported a wide range of projects which have resulted in useful research outputs on ways to produce and manage good seed (seed of a high purity, viability and disease-free status), to promote the uptake of new varieties and the *in situ* conservation of indigenous agro-biodiversity. Numerous CPP/CPHP projects have directly addressed or included aspects of seed quality and health (for both true and vegetative seed), particularly with a view to reducing crop-to-crop transmission of diseases via seed. In addition, a number of these projects have also worked with farmer participatory selection of resistant varieties and mixtures.

CABI-ARC, through its key role in, and strong links with, seed-related projects implemented under the CPP/CPHP programmes in Africa, has identified a good opportunity for linking these with the GSI. Seed-related outputs resulting from previous and concurrent CPP/CPHP and other donor-funded projects can be compiled and subsequently disseminated via the GSI, which provides a valuable and important uptake pathway. In addition, the GSI provides a means of linking existing CPP/CPHP projects with other regional initiatives which offers opportunities for wider uptake and potential impact.

Project purpose

The purpose of this project is, 'Measures to ensure the quality and health of farm-saved and traded seed among the poor taken up and institutionalised within the frame of national legislation and procedures.' The Good Seed Initiative (GSI) which was launched in East Africa at the GSI Morogoro Workshop (CABI, 2003) provides an ideal dissemination pathway for the accelerated uptake and impact of seed-related research outputs from DFID-CPP/CPHP-funded (and where appropriate other donor-funded) projects by poor farmers in three target countries i.e. Kenya, Tanzania and Uganda. The GSI, through its co-ordinators, national steering committees and workshops (and other regional networks e.g. ASARECA) in each of the three target countries plays a central role in raising awareness of, and distributing dissemination outputs from this, and other seed-related projects.

By publishing a review of key seed-related research outputs from a range of existing CPP/CPHP-funded (and other donor-funded projects), 'Opportunities for improving the quality, health and dissemination of farmer-saved and farmer-traded seed in East Africa'

(see Annex 2), the project seeks to ensure that new knowledge in the informal seed sector is easily accessible and readily available as a single document. The review benefits a range of partner and intermediary organisations including Ministries of Agriculture, KARI, KEPHIS, NARO, Universities, Seed Trade Associations and CG Centres (ICRISAT, IPGRI, CIMMYT and CIAT), and is a valuable resource for guiding national legislation.

Particular emphasis has been placed on poor farmer-centred approaches to ensure accelerated uptake i.e. 'empowerment through knowledge', with the publication of a participatory training manual, 'Discovery Learning Exercises for improving the quality, health and dissemination of farmer-saved & farmer-traded seed' (see Annex 2). This, together with the production and publication of three, farmer-friendly promotional posters (see Annex 3) has raised awareness of the importance of seed in the informal seed sector using simple messages concerning key seed-management practices i.e. seed health, seed drying and storage, and seed selection (with text in English and Swahili), and should ensure that seed-related research outputs of donor-funded projects have the desired impact on poor farmers.

Research Outputs and Activities

1. Knowledge and opportunities for improvement of seed quality/health and seed dissemination systems derived from CPP programmes extracted, compiled, analysed and collated.

Consultative review of CPP and other seed-related projects conducted to gather evidence of importance, and scope for improvements, to farmer-saved and farmer-traded seed.

A comprehensive list of >200 research projects commissioned by DFID's CPP (and where appropriate DFID's CPHP), together with seed-related projects commissioned by other donors (including USAID, Swiss Development Corporation, SIDA and the Rockefeller Foundation), during the last decade (1996-2005) was compiled. Executive summaries were obtained from a combination of Annual Reports (i.e. donors, implementing agencies, national programmes and other partners), Websites (CPP, CPHP), Internet Searches or from the Project Leaders, and reviewed in order to ascertain which projects had produced research outputs of relevance to the informal seed sector in East Africa.

From the initial list of >200 projects, 38 projects, funded primarily by CPP were prioritised on the basis of the information provided in the executive summaries i.e. that they had key seed-related research outputs relevant to improving seed quality, seed health or seed dissemination systems, suitable for immediate uptake by the target beneficiaries (see Table 1 below). Wherever possible, the project leaders of the 'prioritised projects', were contacted either by email and/or telephone, and following a brief explanation of the objectives of the current project, requested to provide copies of final technical reports (FTRs), project reports or dissemination outputs resulting from their projects.

In general, project leaders were willing and able to comply with this request and provide the necessary documents; however, this was not possible for six of the prioritised projects (20%). In such cases, it was necessary to rely on existing information from websites e.g. Project Completion Summary Sheets on the CPP website, which were useful but did not contain all of the required technical detail.

Table 1: List of projects with key seed-related research outputs suitable for immediate uptake by poor farmers in East Africa: a. Projects funded by CPP and CPHP; b. Projects funded by other donors.

a.

	R No.	Full Titles	Project Leader	Lead Org.	Start date	End date
1	R7403	Pest management in horticultural crops: an integrated approach to vegetable pest management with the aim of reducing reliance on pesticides in Kenya	Cooper, J.	NRI	Apr-99	Mar-02
2	R7492	Control of sweet potato viruses	Gibson, R	NRI	Nov-99	Oct-02
3	R7505	Strategies for the sustainable deployment of cassava mosaic disease resistant cassava in East Africa.	Gibson, R	NRI	Nov-99	Oct-02
4	R7518	Promotion of sustainable control of covered kernel smut of sorghum through broadening the cropping base.	Hayden, N	NRI	Sep-99	Aug-02
5	R7552	Strategies for development and deployment of durable blast Resistance in West Africa	Sreenivasaprasad, S	HRI	Dec-99	Mar-03
6	R7565	Participatory breeding of superior, mosaic disease-resistant cassava.	Gibson, R	NRI	Mar-00	Mar-03
7	R7566	Management strategies for maize grey leaf spot (<i>Cercospora zeae-maydis</i>) in Kenya and Zimbabwe	Simons, S.	CABI-ARC	Apr-00	Apr-03
8	R7569	Participatory promotion of disease resistant and farmer acceptable <i>Phaseolus</i> beans in the Southern Highlands of Tanzania.	Teverson, D.	NRI	Jan-00	May-03
9	R7571	Vegetable viruses in Kenya	Spence, N.	HRI	Mar-00	Mar-03
10	R8030	Finger millet blast in East Africa: pathogen diversity and disease management strategies	Sreenivasaprasad, S	HRI	Apr-01	Mar-04
11	R8040	Rapid multiplication and distribution of sweet potato varieties with high yielding and β -carotene content.	Lemaga, B.	PRAPACE	Jul-01	Jun-03
12	R8041	Sustainable integrated management whiteflies as pests and vectors of plant viruses in the tropics: Phase II – Network strengthening, pest and disease dynamics and IPM component research	Morales, F./ Cadena, S	CIAT/CIP Peru	Apr-01	Mar-04
13	R8104	Promoting potato seed-tuber management for increased ware yields in Kapchorwa District, Eastern Uganda	Laker-Ojok, R.	AT Uganda	Feb-02	Mar-05
14	R8105	Farmer led multiplication of rosette resistant groundnut varieties for eastern Uganda	Laker-Ojok, R	AT Uganda	Feb-02	Mar-05
15	R8106	Promotion of on-farm potato multiplication in low-input farming communities in Kabale District, Uganda	Crissman, C	CIP Peru	Apr-02	Mar-03
16	R8167	Promotion of sustainable sweet potato production and post harvest management through farmer field schools in East Africa	Stathers, T, Kapinga,	CIP Peru	Apr-02	Mar-05
17	R8281	Linking the demand for, and supply of, agricultural production and post harvest information in Uganda	Pound, B.	NRI	Feb-03	Mar-05
18	R8219	Improved access to appropriate farm inputs for integrated maize crop management by small-scale farmers in Embu and Kirinyaga Districts, Kenya.	Seward, P	FIPA	Jan-03	Mar-05
19	R8220	Improving farmers access to and management of disease resistant maize cultivars in the Southern Highlands of Tanzania	Lyimo, N	Uyole ARI	Sep-02	Mar-05
20	R8247	Promotion and impact assessment of tomato leaf curl virus disease resistant tomatoes: phase III of sustainable management and molecular characterisation of <i>Bemisia tabaci</i> and tomato leaf curl virus (ToLCV) on tomato in India.	Colvin, J	NRI	Jan-03	Mar-05
21	R8272	Evaluation and promotion of crop protection practices for "clean" seed yam production systems in Central Nigeria.	Kenyon, L	NRI	Jan-03	Mar-05
22	R8224	Accelerated uptake and impact of CPP research outputs in Kenya	Simons, S.	CABI-ARC	Apr-03	Mar-05
23	R8226	Promotion of sustainable approaches for the management of root-knot nematodes on vegetables in Kenya.	Gowen, S.	Reading University	Apr-03	Mar-05
24	R8302	Participatory breeding of superior, mosaic disease-resistant cassava: validation, promotion and dissemination.	Gibson, R	NRI	Apr-03	Mar-05
25	R8303	Maximizing, disseminating and promoting the benefits of farmers of cassava varieties resistant to cassava mosaic disease.	Gibson, R	NRI	Apr-03	Mar-05
26	R8312	Promotion of quality vegetable seed in Kenya	Spence, N	CSL	Feb-03	Mar-05
27	R8439	Promotion of quality kale seed in Kenya	Spence, N	CSL	Apr-05	Jan-06
28	R8453	Promotion of an IPM strategy for maize Grey Leaf Spot (GLS) in East Africa	Simons, S.	CABI-ARC	Feb-05	Jan-06
29	R6507	Biological control of the larger grain borer <i>Prostephanus truncatus</i>	Moore, D	CABI-UK	Dec-95	Nov-96
30	R6509	Control of storage pests with formulations of entomopathogenic fungi such as <i>Beauveria bassiana</i> .	Sue Smith	CABI-ARC	Nov-96	Oct-99
31	R8273	Improving the livelihoods of small-scale sweet potato farmers in central Uganda through a crop post harvest-based innovation system	Legama, B.	PRAPACE	Jan-03	Dec-04
32	R8274	Improvement of Maize Marketing through Adoption of Improved post-harvest technologies and farmer group storage: A case study of Kiboga and Apac Districts	Agona, A.	KARI	Jan-03	Dec-04
33	R8454	Accelerated uptake and impact of CPP research outputs in Kenya	Simons, S.	CABI-ARC	Apr-05	Jan-06

b.

	Donor	Full Titles	Project Leader	Lead Org.	Start date	End date
1	Rockefeller	Strengthening maize seed supply systems for small-scale farmers in western Kenya and Uganda	Alpha Diallo	CIMMYT	Jan-03	Dec-07
2	USAID	Developing sustainable seed systems to support commercialisation of small-scale agriculture in sub-Saharan Africa	Richard Jones	ISRISAT	Jan-05	Dec-09
3	Rockefeller Foundation	Seed systems Development		Cornell University	Sept-05	Aug-08
4	SIDA	Evolution of provision of tree seed in Extension Programmes	Christina Holding	RELMA	June-98	Dec-02
5	USDA	Lucrative legumes: Building a competitive legume sector in Kenya	Richard Jones	ICRISAT	Mar-06	Feb-08

Final technical reports, project reports and/or other dissemination outputs, were subsequently reviewed and the relevant information extracted and compiled. The seed-related outputs were then grouped into one of three categories as follows:

- Research outputs emphasising seed health (including strategies for reducing the spread of pathogens on seed and the importance of seed selection).
- Research outputs focusing on the production of, and access to, new varieties.
- Research outputs with a primary focus on management strategies to reduce contamination of seed e.g. use of clean seed plots, roguing, drying and storage.

The research outputs were analysed with respect to their appropriateness for poor farmers and potential for accelerated uptake via the GSI. Those which met the criteria were collated and published in a review entitled, 'Opportunities for improving the quality, health and dissemination of farmer-saved and farmer-traded seed in East Africa' (see Annex 2). The review includes sections on 'lessons learned', both in terms of the research outputs and the subsequent compilation of information, together with 'future opportunities for uptake and scaling-up'.

2. Specific seed-relevant outputs from CPP programmes transformed into participatory learning exercises for poor farmers.

2.1 Formulation of specific learning exercises

Accelerated uptake and impact of seed-related research outputs by the target beneficiaries i.e. poor farmers, requires complementary approaches to extension based on 'empowerment through knowledge'. Using 'participatory-learning' techniques, farmers are encouraged to ascertain for themselves the potential value of new knowledge and/or technologies for improving the quality, health and dissemination of their seed through appropriate seed management strategies, and develop a new understanding of the importance of seed in terms of yield etc. This approach offers considerable scope for building sustainable seed systems, starting from the needs of the community and moving outwards, towards an ultimate link with existing pathways for the introduction of new varieties via certified seed and quality assured production systems, more commonly associated with the formal seed sector.

By focussing on the existing seed systems of poor farmers, the current project endeavoured to promote empowerment (diagnostic tests, new knowledge and skills to improve seed health (e.g. potato), offer improvements in yield potential through improved variety selection procedures (e.g. maize, beans), enhance genetic traits and enable farmers to share in IPR (e.g. kale) in a holistic approach (based on a combination of available seed-related research outputs). There is now a real opportunity to bring together these learning experiences to facilitate incorporation of the outcomes into policies and guidelines, in a manner tailored to the different needs and priorities of each of the target countries.

Using some of the seed-related outputs highlighted in the review (Output 1) as examples, a series of discovery-based learning exercises, which sought to empower poor farmers operating within the informal seed sector, were developed and tested through the existing

network of the GSI in Kenya, Tanzania and Uganda. The learning exercises were subsequently refined, compiled and published as a training manual, 'Discovery-Learning Exercises for improving the quality, health and dissemination of farmer-saved & farmer-traded seed' (see Annex 2). Included in the manual are exercises on 'raising awareness' and 'appropriate dissemination of outputs' e.g. posters – considered to be an essential starting point in effective uptake by target beneficiaries.

3. Principle lessons and learning exercises published in written and electronic forms shared with seed networks, seed projects, programmes and donors in the East African Region.

Knowledge dissemination in written and electronic form via key seed-related networks/organisations

Dissemination of knowledge (outputs) from the current project i.e. a published review, 'Opportunities for improving the quality, health and dissemination of farmer-saved and farmer-traded seed in East Africa' (500 copies), together with the training manual, 'Discovery Learning Exercises for improving the quality, health and dissemination of farmer-saved & farmer-traded seed' (500 copies) and awareness-raising posters (1000 copies each), in both written and electronic forms, has been achieved through a number of different pathways. The GSI, Nairobi Workshop (June 2005), attended by 28 stakeholders from a range of different organisations was used as a forum to present participants with a summary of the key seed-related outputs from CPP (and other donor-funded) projects, which were considered appropriate for accelerated uptake (CABI, 2005b). GSI Co-ordinators and national steering committees in each of the three target countries were subsequently provided with copies of all published dissemination outputs and encouraged to share them with a range of stakeholders including poor farmers, farmer groups, NGOs, CBOs and private sector seed companies. In addition, outputs have been disseminated to partner organisations and intermediary organisations actively involved in the GSI, or those actively involved in seed-related activities in the region, and a number of ASARECA Networks including ECAMAW and ECABREN. Dissemination outputs have also been made available for use in newsletters and websites e.g. GSI and CPP (see www.gsi-cabi-bioscience.org and www.cpp.uk.org)

Dissemination Outputs

- CABI (2005a) Report of the Good Seed Initiative Workshop, 28-29 June 2005, Kenya Plant Health Inspectorate Service (KEPHIS), Nairobi, Kenya. 20pp.
- CABI (2005b) Opportunities for improving the quality, health and dissemination of farmer-saved and farmer-traded seed in East Africa. 30pp.
- CABI (2006) Discovery-Learning Exercises for improving the quality, health and dissemination of farmer-saved & farmer-traded seed: A manual for training extensionists and poor farmers in the management of seed for improved yield. 45pp.

Magazine article

- Phiri, N A. (2005) Strategies for Improving Access to Quality Seed by the Rural Poor. A presentation made at the African Agricultural Scientific Week: Forum for Agricultural Research in Africa (FARA) General Assembly 2005 (sub-theme 'Developing sustainable seed systems to support the commercialisation of small-scale agriculture in sub-Saharan Africa'), Entebbe, Uganda, Wednesday 8th June, 2005. 3pp.

Posters/Fact sheets

- Reprints of a Poster 'How to produce Sukuma Wiki Seed' (Dissemination output from R8312). (see Annex 3)

- Reprints of a Poster 'Benefits of Quality Kale Seed' (Dissemination output from R8312). (see Annex 3)
- Seed Health - A poster for poor farmers in East Africa (English and Swahili). CAB International – Africa Regional Centre. (see Annex 4)
- Seed drying and storage - A poster for poor farmers in East Africa (English and Swahili). CAB International – Africa Regional Centre. (see Annex 4)
- Seed selection - A poster for poor farmers in East Africa (English and Swahili). CAB International – Africa Regional Centre. (see Annex 4)

Internal Reports

- Nathaniels, N. (2005) Back to Office Report on a visit to Kenya to organise and host a Good Seed Initiative Workshop at Kenya Plant Health Inspectorate Service (KEPHIS), Nairobi, Kenya. Nairobi, 28 June – 1 July 2005. 3pp.
- Nathaniels, N. (2005) Back to Office Report on a visit to Nairobi, Kenya to meet with the Regional and National Co-ordinators of the Good Seed Initiative, the steering committee and partner organisations. 28 Oct – 2 Nov 2005. 3pp.

Project Progress Reports

- Crop Protection Programme PPR1 – April-September 2005

Contribution of Outputs to Developmental Impact

It is clear that the informal seed sector is, and will continue to be, the major source of seed in SSA. As such, it plays a vital role in improving food security and rural livelihoods. In compiling and disseminating two key publications, together with three posters, the current project has achieved all three project outputs and contributed to the goal of delivering benefits to poor people. New knowledge on the quality, health and dissemination of seed in the informal seed sector in East Africa, primarily from the research outputs of projects funded by CPP, is now easily accessible and readily available in both written and electronic forms. The two key dissemination outputs – one targeting partner and intermediary organisations, and the other farmers and extensionists, should be used in conjunction to ensure a broader understanding of the importance of seed in the informal seed sector from the perspective of poor farmers as well as researchers, extensionists and policy makers in East Africa.

Through the dissemination of information, in both printed and electronic forms, to intermediary organisations working with poor farmers in rural communities, and directly to the farmers, the new knowledge generated by this project will reach at least 1000 beneficiaries directly, and potentially more than 10,000 farmers (indirectly), who will benefit from the understanding and application of new knowledge in the informal seed sector. There was insufficient time to determine the impact of the knowledge on poor farmers, however, the ongoing GSI provides an excellent opportunity i.e. uptake pathway for additional seed-related activities in the region. Further investment in disseminating key seed-related messages via a range of different media notably training videos and local radio, together with massive scaling-up in terms of the number of dissemination outputs printed and disseminated, and thus the number of poor farmers benefiting, would be a good starting point.

Annex 1: Promotional Leaflet for the Good Seed Initiative



GOOD SEED INITIATIVE

Nick Nathaniels, Noah Phiri, Mark Holderness

Much effort has been spent to improve the access of small scale farmers to seed and planting material of new improved crop plant varieties in the drive to improve agricultural productivity in the developing world. In the poorest and most difficult areas these development initiatives face serious challenges once subsidies in one form or the other are withdrawn. Private seed merchants are reluctant to risk supplying seed to uncertain markets with high costs due to distance and poor infrastructure. Farming communities themselves need timely supply of seed they can trust and with characteristics they recognise and value. Conventional plant breeding and commercial seed supply networks have been only partially able to supply this kind of material. On the other hand, farming communities themselves have practised seed production and land race conservation and development for centuries. The physical and human resources that characterise these informal seed systems remain by far the principal base from which poor smallholder farmers attempt to meet their seed and food requirements.

In CAB International's **Good Seed Initiative**, we believe that the human interests, activities and skills, and the genetic resources, that underpin these informal seed systems deserve renewed focus as an important development opportunity. In the GSI we are looking specifically at how to generate greater synergy between informal seed systems and the innovations (e.g yield potential, specific pest resistance, traits suited to new markets, improved seed selection and care etc) delivered through the *formal seed sector* and *participatory research*.

Through this synergy, the GSI aims to contribute to:

1. Improvements to the quality (health, purity, viability and freedom from contaminants) and value of farmer-saved and farmer-traded seed
2. Improvements to access by farmers to seed/planting materials external to the community
3. Taking lessons and learning from these into local, national and regional seed systems and policies.

In addressing these areas, we seek dialogue about the whole seed-to-seed cycle in conjunction with interested seed projects and programmes. The focus will be to examine what is known already and where useful extra value can be added that expands understanding and scope for action by all seed stakeholders from growers to policy makers.

GSI principles are open-ended and action research oriented. Existing initiatives, resources and knowledge of stakeholders are recognised and valued, whilst no single recipe or model is assumed to take precedence over another – all have something to offer and to share. In each specific case, questions include:

- What practices and skills from the formal sector that can be added to those farmers already possess, that can improve the quality of the seed farmers save and the value of their local varieties in their own situation?
- Can farmers' experiences of seed and variety quality improvements in this direct way be rapidly shared with and assimilated by large numbers of other farmers?
- Do these improvements encourage enhanced seed flows and trade?
- Does this increase in appreciation in seed/variety quality by farmers open up opportunities and interest to access more seed/other varieties from outside?

- With access to new crop varieties, better storage and seed conditioning, acquired through farmers' experimentation and farmer-to-farmer sharing practices at local level, are there openings for new products and new local markets?
- What are the policy implications for donors, governments, farmers' organisations, seed business and formal and informal plant breeding efforts (seed regulation harmonisation/IPR)?

Elements of the approach have been piloted in rice in Bangladesh (*improved seed conditioning and storage*) with substantial success whilst work in Kenya (Kale) shows promise (*participatory plant breeding*). Field experiences such as these lie behind the evolution of the GSI. In these it is crucial that what has been learned/experienced can be communicated effectively to a range of seed stakeholders. This led to pioneering the use of participatory digital video in Bangladesh as an important peer-to-peer learning tool. In the GSI, use of participatory media is an important element in the communication strategy for dialogue and sharing of concepts and results at all levels.

GSI Coordination

The GSI is coordinated by CABI UK Centre and CABI Africa Regional Centre (Nairobi) with funds from the Swiss Agency for Development Cooperation (SDC). A new interactive version of the GSI website is under development and will soon be in operation. A new website is intended to contribute to networking, debate and knowledge pooling on seed issues, identification of common interests and building cases for specific funded action.

Collaborators and Regional Interest

In East Africa a regional GSI workshop in 2003 successfully laid the foundations for a national and regional framework for collaboration across the theme of Good Seed for the resource poor. This is being developed further through CABI's centres in Africa (Nairobi) and Europe and through national GSI coordinators.

More widely, there has been keen interest in participation in these processes from West Africa, South and Southeast Asia, South & Central America, and internationally from, among others, IPGRI, ICRISAT and the Millennium Seed Bank Project. These have all recognised the added dimension GSI can contribute to the farmer focus of ongoing or planned activities and the expertise CABI and its partners have to offer in participatory/learner centred methods and tools.

Activities will be undertaken to start with in East and West Africa and South Asia, with later phasing in of other regions (Latin/Central America, West and Central Asia). Depending on the region, activities will focus on: rice, vegetables, tubers and/or pulses.

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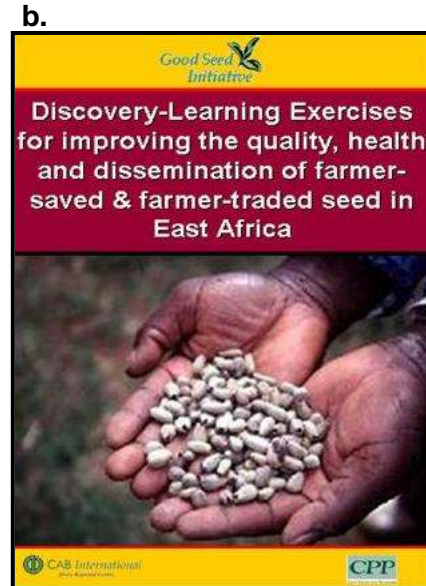
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Annex 2: Dissemination outputs: a. A review of key seed-related research outputs, 'Opportunities for improving the quality, health and dissemination of farmer-saved and farmer-traded seed in East Africa'; and b. A participatory training manual, 'Discovery Learning Exercises for improving the quality, health and dissemination of farmer-saved & farmer-traded seed' in East Africa.



Annex 3: Reprints of two posters which were dissemination outputs from a previous CPP-funded project, 'Promotion of Quality Vegetable Seed in Kenya (R8312)'.



Annex 4: Dissemination outputs from the CPP-funded project ‘The Good Seed Initiative – sharing the learning from CPP programmes into pro-poor seed systems in East Africa (R8480).

Seed Drying and Storage

Good Quality Seed leads to better yield

Good Seed Initiative (GSI) is a new international partnership programme which aims to improve the quality and health of seed of staple crops available to the resource-poor



Good Quality Seed

- Quality seed is a major vehicle for crop improvement e.g. drought tolerance, pest resistance etc.
- Sustainable seed systems depend on farmer-saved practices & the value of good quality seed e.g. health, improved genetic traits
- Farmer empowerment is required to understand, produce & evaluate seed quality

Aims

- Enhance quality & health of farmer-saved and farmer-traded seed through improved knowledge & practices
- Establish demand and sustainable supply of healthy, high quality seed in decentralized and formal (CPV) seed provision

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Seed Health

Good Quality Seed leads to better yield

Good Seed Initiative (GSI) is a new international partnership programme which aims to improve the quality and health of seed of staple crops available to the resource-poor

Objectives

- Improve production, storage and management practices for ensuring the health and quality of farmer-saved and locally-traded seed
- Develop on-farm seed policies and marketing systems



Focus

- Putting the farmer, not the government, at the centre of the process
- Reducing inequalities & risks
- Innovation & effective partnerships & networks
- Restoring losses of seed quality & health in existing & new programmes
- Capacity development

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Seed Selection and Planting

Good Quality Seed leads to better yield

Good Seed Initiative (GSI) is a new international partnership programme which aims to improve the quality and health of seed of staple crops available to the resource-poor



Strategy

- Training & Empowerment of farmers
- Encouraging and providing seed engagement with farmers
- Acknowledging and valuing their skills and judgements

Aims

- Improvements in quality and value of farmer-saved and farmer-traded seed
- Empowering farmers to access and assess seed-saving practices external to the community
- Taking lessons to seed saving from those working in local, national and regional seed systems, and policies

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