Web to Field to Web - a web resource for remote rural areas

Sharing experiences and information can be difficult across rural communities, especially in developing countries. Farmers are not well-served by telephones, the internet or libraries. But new technologies and solar powered computers could change that. Building on these possibilities, a new ***PAN Germany*** *initiative is helping to put valuable information on pest recognition, response and management strategies for tropical crops at the service of farmers. Its consultations on how to expand the audience are generating ideas to improve dissemination.* ***Gabriele Stoll*** *reports.*

OISAT, the Online Information Service for Non-chemical Pest Management in the Tropics, was developed by PAN Germany and released to the public in July 2004 on www.oisat.org. Since then this service has received world-wide recognition and almost 100,000 web hits per month.

In order to ensure access to OISAT, a strategy was identified to stimulate its use through agricultural training and extension services serving poor farmers in remote areas. PAN Germany conducted a pilot project to study which factors contribute to successful adoption of OISAT by these services.

'From Web to Field to Web'

The concept 'From Web to Field to Web' to encourage integration of OISAT into training and extension services consists of the following six components:

- information search on the OISAT database
- training in pest and beneficial insect identification, computer use and OISAT search
- field validation of OISAT-derived information
- assessment of field validation results
- documentation of best practices
- feedback of best practices to OISAT

It is important that information in OISAT is carefully field-tested so that only pest management practices which have proven successful in specific locations are promoted. With the help of extension workers, the practices described in OISAT may also have to be adapted and local traditional knowledge included.

Experiences from the field will also be fed back to the OISAT database. Therefore, documentation of the best practices is a prerequisite for reporting back on proven practices from the field. This will enrich the database with real field experiences and contribute to valuable South-South information exchange.

OISAT pilot design

The pilot project was conducted in Kenya and its design was largely developed by the Kenyan partners through various stages of consultation. The key features were

- one organisation acted as coordinating partner within Kenya and with PAN Germany
- four implementing partners, representing agricultural training and extension services, collaborated locally with seven focal farmers and other interested community farmers
- each implementing partner had an extension officer to work directly with the focal farmers
- each implementing partner ran a farmer resource centre staffed with an assistant, who could also be a focal farmer
- the energy supply at the farmer resource centres derived from solar energy and mobile technology
- farmer discussion forums and farmer exchange visits acted as a platform for sharing experiences and for verifying the technologies tested

Throughout the pilot project, it was examined how the six components of the OISAT concept could be implemented by agricultural training and extension services. Each of the four implementing partners was a well established training and extension organisation.

Training in the use of computers to access OISAT *Photo: PAN Germany*

Outcome of the pilot

In a final workshop of the two-year pilot project, a number of parameters were analysed.

Location of internet/OISAT access

For all farmer resource centres the site chosen was easily accessible by farmers and community members. A search visit generally took a minimum of two hours. Information searches were conducted mainly in the evening just before dusk. The number of searches increased before the rains/planting.

Technical equipment for accessing OISAT via the internet

Access to the internet varied. Only the Kenya Institute of Organic Farming (KIOF) farmer resource centre had stable access.

Type of outreach at farmer resource centres	No of contacts
Type of visitors at the farmer resource centres: Ministry of Agriculture (MOA) staff from the district and divisions, students, teachers, local farmers, NGO representatives	Between 500 and 1300 visitors depending on the FRC
Multipliers (NGO staff, researchers, students) and visitors	> 200 (SACRED Africa)
Open day, launch of the farmer resource centre, field days; all implementing partners conducted these activities	Between 200 and 500 visitors attended per event
Farmer Sharing Forum The farmer sharing forum met between once only and monthly depending on the farmer resource centre. These are very useful for spreading OISAT information among farmers. Farmer-to-farmer dissemination is considered the best method for dissemination because of the direct interaction between the teacher farmer and student farmer. Adoption is highest here. However it is very slow and will take a long time to reach the same number of farmers reached using the above methods	KIOF: 5 meetings with 7 farmers from 4 villages. 35 farmers participated on average

Women trained in the use of computers

Photo: PAN Germany

The Arid Lands Information Network (ALIN) farmer resource centre had internet access through worldspace radio. All other farmer resource centres used a CD-Rom for information searches due to lack of access to the network. At all farmer resource centres the technical equipment was generally adequate, even though at times it was not fully functional. A reliable power supply is essential and must be ensured. Maintenance of equipment should be taken into consideration. Therefore, training on maintaining and repairing the solar power system is needed.

Trainings conducted

Trainings have been offered in the use of computers, how to search the OISAT database and insect identification (pests and beneficial insects). It was recommended after the pilot project that trainings should be organised so that new users receive an intensive introductory training. Follow-up trainings should be offered regularly as not all information can be internalised by the users after the introductory trainings. Also new questions will arise which can be addressed during the follow-up trainings.

Outreach

The outreach varied and was not identically reported by all farmer resource centres. However, their feedback gave a good overview of the achievements of each farmer resource centre (Table 1).

OISAT information repackaged

During a consultative regional workshop at ICIPE (Africa Insect Science for Food and Health) at the beginning of the OISAT project, the 'repackaging of information' was strongly stressed. The presentation of the information in OISAT was considered appropriate in the sense that it is intended for trainers and extension workers. However, workshop participants suggested that information from the OISAT database should be incorporated into locally relevant communication tools in order to reach the most farmers. In a preparatory workshop for the pilot project at SACDEP (Sustainable Agriculture Community Development Programme), a decision was made to 'repackage information' as part of the pilot project to test this recommendation. A summary of the various ways in which OISAT information was repackaged is presented and an assessment is given in Table 2.

The importance of the repackaging became obvious after the participants reported that about 60% of visitors to the farmer research centres are illiterate. Participants recommended that OISAT information be transformed into locally relevant forms and language that make it communicable also to this large user group.

It is now recognised that an in-depth analysis of local communication channels, including local culture and customs, should be conducted in advnce of any further OISAT dissemination work. A strategy for the repackaging of OISAT information should be developed with a clear plan for external costs, local contributions and monitoring for effectiveness.

Feedback to the OISAT database

Table 2. OISAT information repackaging

Repackaging	Responsible partner	Assessment
Major articles and publications	ALIN: 5 KIOF: various	Mostly done at the institutional research centre, which is well equipped to put information and SACDEP: various field activities into writing suit able for print media. It can attain very wide distrib ution and since they are produced regularly, con tinuous updates can be published.
Translation into Kikuyu	KIOF	Very effective. Must be done professionally.
Printed hand-outs	SACDEP	Distribution of systematic information. Stationery
		is expensive but handouts can be shared among farmers reducing costs considerably.
Reproducing and distributing OISAT CDs	ALIN: 10	The institutional research centre reproduced more OISAT Info CDs and distributed to 10 local development organizations upon request after they read published articles on OISAT.
Radio programmes	ALIN KIOF	In collaboration with the Agricultural Information Centre, the Kyuso 4th farmers forum was featured in the national channel KBC radio, SIKIO LA MKULIMA 'The Farmer's Ear'. This programme helped to spread OISAT news nationally as many farmers listen to get farming advice. There was also overwhelming feedback from local communities
Videos		Real life demonstrations are very effective. Sometimes the language used was not under stood by all and needs dubbing or sub-titling into local dialects. Videos enhance the understanding of listeners as they both listen and watch. However the cost of production is high and needs specialised equipment for the presentation.
Local traditional songs	ALIN	The Kyuso farmers changed traditional songs to report on OISAT during the launch of the farmer research centre.
Diploma training	KIOF	Very effective as it reaches multipliers.
TV (Sauti Ya Mkulima)	KIOF	Very effective but can be costly. Tracking the effect is difficult.

Table 3. Field validation experiments

Information source					
OISAT	Local Source	Crop	Pests	Practice	Assessment
Cow urine and ash	Tips on weed control	Potato, tomato, kale, eggplant	Blight, weeds, aphids, spider mites	Add ash to cattle urine, cover and leave for 7 days. Dilute 1:5 to apply	Effective
Mexican Marigold	Cutworm control using papaya petiole and sticks.	Maize, potato, kale, eggplant, bean	Aphids, weevils	Half fill a container with finely chopped Mexican Marigold. Fill the container with water. Leave for 7 days then spray. Mexican Marigold can also be mixed with grains in storage to keep off weevils.	Effective
Chillies and ash	Maize stalk borer	Maize	Stalk borer	Mix ash with ground dry chillies. Apply to the funnel of knee-high maize to keep stalk borers off	Effective

During the discussions at the final workshop of the pilot project, the representatives of the implementing partners recognized that the field validation trials were the most difficult part and that the methodology should be elaborated more clearly. It was recommended that this could be conducted in collaboration with a research institution and/or the government. The farmer field schools can be taken as a model.

Table 3 shows field-validation experiments conducted by the implementing partner KIOF.

Recommendations

Participants in the pilot project came together for a final workshop to discuss the outcomes and recommendations of the project. They recommended that to achieve more reliable results, the effects of pest control treatments by extension workers should be monitored more frequently than in the pilot project. Consistent record keeping and documentation of tested practices is also needed. A number of improvement in the field validation were suggested such as improvements in design; improved collaboration between extension worker and farmer; role of extension worker in the field validation; competencies; mobilization of indigenous knowledge through the pilot project; legal implications.

Demonstration of OISAT in a public place

Photo: PAN Germany

OISAT sustainability strategy

PAN Germany needs to envision a strategy to enable OISAT to become self-sustaining. The participants of the final workshop of the pilot project suggested the following areas as relevant for the sustainability of the OISAT concept

- integration of OISAT into existing local institutions
- regular farmer sharing forums. These are an effective way to keep everyone on track
- supplementary support, particularly in the provision of relevant equipment for farmer resource centres, such boosters for power supplies, equipment to improve internet access, and also in holding more farmer trainings
- generating income for farmer resource centres by offering commercial computer lessons, typing/printing services, phone charging, family pay phone, and sale of seeds
- use continuous training strategies with intensive introductory trainings and subsequent training for the improvement of skills
- internet services, though not yet very stable, are the easiest way to access information in the rural areas

Next steps

Two main approaches are being pursued. The first is to scale up the dissemination process in Kenya. This involves the improvement of the phase 'from Field to Web' by involving research institutions. Beyond this, OISAT may be integrated into an internet service initiative of the extension service of the Kenyan Ministry of Agriculture.

The second approach is to develop an 'OISAT Introductory Workshop'. This workshop will be offered as a paid service to agricultural training and extension services. During the workshop, a tailor-made working strategy will be elaborated for integrating the OISAT concept into any specific training and extension service. This service of providing workshops will be available from 2008 and can be requested from PAN Germany.

Dr Gabriele Stoll, PAN Germany

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