

Aspects relating to Development  
Extracted from :

## CABI Switzerland Centre Annual Report 2005

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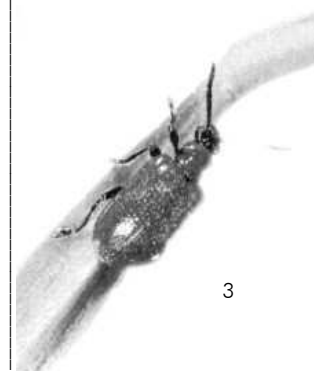


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# Highlights of the CABI Switzerland Centre's role in International Development Work

## Visit of DPR Korean Scientists in Switzerland

The Swiss Agency for Development and Cooperation (SDC) and CABI invited three DPR Korean scientists to attend the International Symposium on Biological Control of Arthropods in Davos. The DPR Korean delegation stayed in Switzerland for ten days. During the first days, they visited the Centre in Delémont to familiarize themselves with projects of the Agricultural Pest Research section. An excursion was made to Switzerland's largest vegetable production area "Seeland". The DPR Korean scientists learnt about Swiss organic vegetable production at first hand during a visit at the farm of Mr. Roland Fasnacht, an organic vegetable grower who knows DPR Korea and the visiting scientists from consultancies within CABI's SDC-funded Cabbage IPM Project in DPR Korea.



**DPR Korean scientists visiting Roland Fasnacht's organic vegetable farm**

Another excursion was to the farm of Mr. Erwin Perler in the canton of Fribourg, where the scientists saw a farm specialized on animal husbandry and potato production. In the second

week of their stay, the scientists attended the symposium and thereby had the opportunity to meet researchers from all over the world, and to learn more about current cutting edge research in biological control. The visit was certainly a very new and unique experience, which the DPR Korean scientists seemed to appreciate.



**DPR Korean delegation visiting the animal husbandry farm of Erwin Perler with Manfred Grossrieder (CABI)**

## Integrated Production Training for Kosovan scientist

Integrated Production (IP) – the thoughtful and scientific management of crops to protect the environment and cultivate produce safe for human consumption – is being introduced by the Ministry of Agriculture, Forestry and Rural Development in Kosovo with the assistance of CABI and Intercooperation (IC). In 2004, IC took the first step with a pest monitoring programme on cabbage and tomatoes over a seven-month period, carried out by two students under the supervision of CABI. The Kosovan student Mr Basri Pulaj performed well and graduated at the Plant Protection Department of the University of Pristina as a Plant Protection Engineer (equivalent to a BSc).

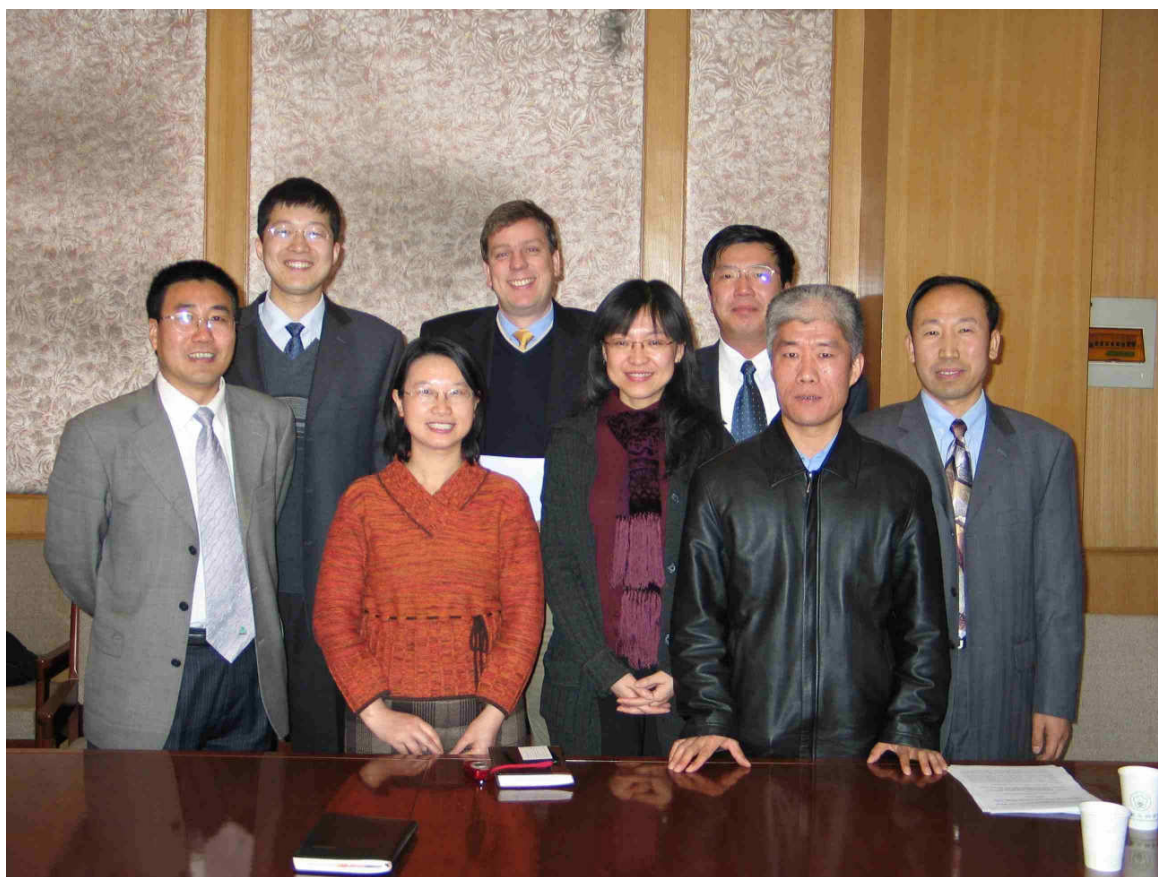


**Dr Hemachandra (University of Peradeniya, Sri Lanka) and Basri Pulaj enjoy a discussion at IBSCA2, Davos**

In 2005, Basri was trained in the Agricultural Pest Research section at CABI Delémont for a six-month time period. He increased his knowledge and understanding of the theoretical and practical aspects of IP and participated in biological control studies conducted by CABI in Switzerland.

### **CABI – China - DPR Korea IPM collaboration established**

In autumn 2004, CABI Switzerland Centre, started to re-establish an effective biological control programme for the Asian corn borer in DPR Korea. In order to implement this project, funded by the Swiss Agency for Development and Cooperation (SDC), collaboration has been established with two Chinese institutions. Under the leadership of CABI China Office in Beijing, a collaborative project contract has been signed with the Institute of Plant Protection of the Chinese Academy of Agricultural Sciences in Beijing, and the Hengshui Tianyi Biocontrol Company Ltd in Henghui. In DPR Korea, a Maize IPM Focus Group has been established in the Plant Protection Institute of the Academy of Agricultural Sciences, Pyongyang, which is responsible for the successful project implementation in collaboration with SDC, CABI and its Chinese subcontractors.



**Dr Feng Zhang (CABI China Office) and Dr Ulli Kuhlmann (back row, left and middle) set up a collaborative project with Chinese partners**



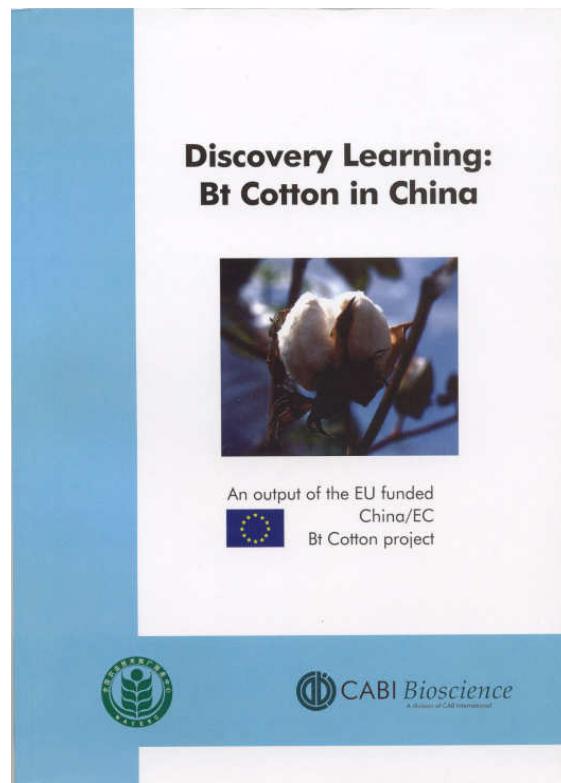
In collaboration with all the project partners, a planning document for 2005 and 2006 has been worked out providing detailed activities to implement this programme successfully in DPR Korea. Major efforts will be made to re-establish an effective but inexpensive and simple mass production technique for *Trichogramma*, *Trichogramma* field release technique and evaluation protocol, establishment of *Trichogramma* rearing factories in DPR Korea. Technical backstopping, training and regular consultancy during the field season will be provided by CABI and the Chinese partners to help DPRK counterparts reach the project goal.

### Farmer-participatory methods to evaluate *Bt* cotton in China

Early in 2005, CABI Switzerland Centre was asked to design and document a series of farmer-participatory exercises to help Chinese farmers evaluate transgenic *Bt* cotton, its environmental impact and financial benefits. This was part of CABI's inputs to the EU-funded COTRAN project, in collaboration with European and Chinese partners.

CABI-CH mobilised a team from four CABI Centres (Switzerland, UK Centre, China Office, and South-East Asia Regional Centre) to work with Chinese colleagues, particularly Dr Yang and Dr Su of the National Agro-Technical Extension Service Centre to deliver the project outputs in time for the final workshop, which was held in Beijing in March. Manfred Grossrieder, Beate Kiefer (CH), and Lim Guan Soon (SEARC) designed a workbook of exercises; Feng Zhang and Wan Min (CABI China Office) organised a writing workshop with Chinese counterparts in Beijing; Manfred and Lim spearheaded the writing workshop, compiling and adopting existing exercises (from CABI Pakistan and UK), adding evaluated exercises from earlier Chinese activities, designing new ones addressing the issues specific to *Bt* cotton, and

wrote the workbook with the Chinese partners; Babs Ritchie and Sam Page (CABI UK) edited and formatted the results; Beate and Lim attended and back-stopped the final project workshop in Beijing to present the draft workbook; Manfred finalized the workbook and Feng and Wan Min organized the printing in China.



The workbook<sup>1</sup> is now available as a pdf file, or as hard copy from the CABI China Office.

This was an impressive demonstration of how CABI can put together a multilocation, multidisciplinary team and produce a professional product when speed is of the essence.

<sup>1</sup> Grossrieder, M.; Yang, P.; Lim, G.S.; Su, Y.; Ritchie, B.J. (2005) Discovery Learning: Bt Cotton in China. CABI Bioscience, CAAS – CABI Project office, Beijing, P.R. China.

# CABI's Swiss-funded Development Projects

The Swiss Agency for Development and Cooperation (SDC) has been funding aspects of CABI's programme since 1993, and in 2000 Switzerland became a member country of CABI with SDC taking the lead agency role. SDC-funded Development projects are also carried out from the CABI Switzerland Centre, for example as part of the Agricultural Pests Research Programme (see project reports on pages 12-15).

This relationship entered a new phase in 2004, when SDC agreed programme support through the CABI Partnership Facility, the Good Seed Initiative and the refocused CABI IPM Advisory Support group.

## CABI Partnership Facility

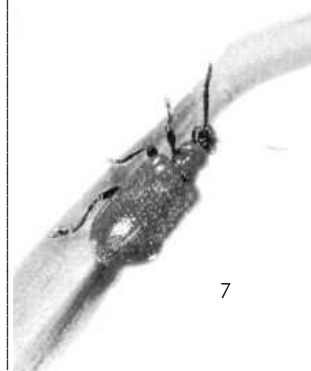
Our Member Countries set up the CABI Partnership Facility in 1991. The Facility allows development agencies to pool resources and facilitate development initiatives directly responding to demands from our developing Member Countries, resulting in greater impact and lower transaction cost than they would achieve individually. Donors contribute to the Facility, placing guidelines on how and where they want their funds to be used. The Facility then supports the development projects led by CABI, addressing development needs at levels from the farmer to the policy maker

The Partnership Facility is used very successfully to fill important gaps in scientific knowledge. For example, five years ago, interest grew from a number of quarters (in particular from the Global Invasive Species Programme and the Conference of the Parties to the Convention on Biological Diversity) in understanding the pathways of entry of invasive alien species. Invasives threaten food security, smallholder livelihoods, biodiversity and even infrastructure. One little understood route is international aid programmes. These well-intentioned initiatives have introduced invasives into developing countries. The CABI work has identified several examples of exotic species, such as agroforestry trees and fish for aquaculture, that were introduced into countries to boost agricultural production, only to become problematic invaders.

The Partnership Facility enabled CABI to hold a workshop with the Consultative Group on International Agricultural Research to discuss the issue and make recommendations for action. Building on this, CABI produced a discussion document, which has been well received by international development agencies. The document, entitled *The Aid Trade: International Assistance Programmes as Pathways for the Introduction of Invasive Alien Species* was published by the World Bank as part of their Biodiversity series and launched at COP 8 in Brazil in March 2006. This document should set the agenda and generate global action to address the problem.

In 2005, the Partnership Facility funded 23 such projects. Supporters of the Partnership Facility included the Australian Centre for International Agricultural Research (ACIAR), the UK's Department for International Development (DFID) and the Canadian International Development Agency (CIDA). The Swiss Agency for Development and Cooperation (SDC) began to contribute to the facility at the beginning of 2005.

For more information about our Partnership Facility, please see [www.cabi.org](http://www.cabi.org)



## CABI IPM advisory support

This programme builds on from earlier SDC support, under the 'IPM Technical Support Group' programme. CABI is implementing a 3-year SDC supported programme designed to reduce poverty by increase of knowledge and productivity through economically, environmentally, socially and institutionally sustainable IPM measures. The programme identifies and implements alternatives to the most hazardous and broad-spectrum pesticides currently in use.

The programme is addressing needs in fruit and vegetable crop systems in five focus areas (Kosovo, Nicaragua & Honduras, Vietnam, Tanzania, Pakistan). It supports delivery of the SDC targets of enhancing the resilience of vulnerable groups or regions and stabilizing of economic areas and livelihood systems and strengthening of local environmental learning.

The expected outcomes and impact of this programme include case studies on feasibility of alternatives to pesticide dependence, discovery learning resources for participatory training, documentation of validated alternatives to pesticides, development of local capacities in various approaches to discovery based learning about IPM, documentation of experiences and impact, and international knowledge exchange.

The programme is being implemented by a team of IPM and farmer participatory training and research specialists based at the relevant CABI Centres and Offices around the world. The programme on tomato IPM in Kosovo is being carried out by a team from CABI-CH and is presented on p. 15.

The IPM initiative in Honduras and Nicaragua concentrates on identification and implementation of alternatives to hazardous pesticides. Activities are planned around knowledge exchange and farmer participatory technology development, practical measures to reduce the inappropriate or excessive use of pesticides and dissemination of possible interventions. This involves interaction with a wide range of opinions and perspectives in IPM-related issues, as well as continuous efforts to make knowledge from science accessible and useful to farmers. Following extensive prior stakeholder consultation, a CABI mission was undertaken to the two countries in May 2005, during which meetings were held with the main stakeholders. A summary of the findings was drafted in Spanish and circulated to relevant stakeholders for prioritising activities for 2005 – 2007.

The IPM initiative in Vietnam is focused on farmer and local consumer awareness of IPM and the reduction of near-market pesticide application. Activities will be based around knowledge exchange and farmer participatory technology development towards Good Agricultural Practice. To help formulate appropriate work activities, a wide range of opinions and perspectives on IPM-related issues from various national stakeholders were gathered, primarily through a 2-day "Workshop on Farmer and Consumer Awareness of IPM and Reduction of Near-Market Pesticide Use with Respect to Food Safety and Quality in Vietnam" held in July 2005 at the National Institute of Plant Protection (NIPP) in Vietnam. Working groups discussed and identified key issues and problems pertaining to pre-harvest and on-farm concerns that relate to near-market pesticide use by farmers, as well as post-harvest concerns with pesticide residues and food quality in market produce. Follow-up activities to address the concerns were identified.

In Tanzania, CABI will work with the SDC supported Rural Livelihood Development Program (RLDP), which runs from 2005 – 2008. RLDP's mission is to open up markets for the rural poor through the preparation and implementation of relevant projects that utilise market opportunities and remove constraints to market access. Emphasis will be in areas such as skills development, extension services, business development services, financial services and infrastructure, as well as creating an enabling business environment. RLDP covers the drought prone regions of Morogoro, Dodoma, Singida and Shinyanga. RLDC has so far established constraints based on a value chain analysis in the program area.

In Pakistan, the CABI IPM work builds on a previous SDC Intercooperation fruit and vegetable project and attempts to extend the participatory learning principles involved into a wider ICM frame through support to IPM/ICM and farmer field schools. Partners include the Pakistan national IPM programme, a range of rural development NGOs and village level agrochemical suppliers. Over the past project year, various meetings were held with Project Coordinators of the programmes being implemented in the North Western Frontier Province (NWFP) under Intercooperation (IC). Issues were identified where the CABI IPM team would give technical support and a work plan for CABI activities was agreed.

Contact: J. Vos ([j.vos@cabi.org](mailto:j.vos@cabi.org)). Funded by the Swiss Agency for Development and Cooperation (SDC).

## Support for Coordination of the Good Seed Initiative (2004-2006)

Support from the Swiss Agency for Development Cooperation (SDC) enables CABI to further develop dialogue and collaboration, pool knowledge and build consensus for actions under the Good Seed Initiative (GSI). This programme addresses three key seed-related issues:

- improvements to the quality (health, purity, viability and freedom from contaminants) and value of farmer-saved and farmer-traded seed (i.e. seed as a resource);
- building farmer-centred seed systems, enabling the poor to access and benefit from seed from sources external to the community (i.e. seed as a commodity) and
- taking forward learning from these into regional and national seed systems and policies.

The Initiative takes forward processes catalysed via a highly successful programme on seed health improvement in Bangladesh and responds to demands from other regions for similar processes, each building sustainable seed systems from a basis of farmer knowledge and awareness. CABI facilitates and coordinates activities, in direct partnership with national coordinators and stakeholders from across the seed sector. The initiative links actively with other identified donor-supported activities in each region that will provide co-financing for country and crop-specific activities.

The GSI South Asia programme was developed in February 2005 in a collaborative process between CABI and national and international organisations in Bangladesh. The project is managed by an implementation committee led by RDA. The key focus is developing capacity within rural communities for improved rice and vegetable seed production and post-harvest management. Under a previous collaboration between CABI, the Rural Development Academy (RDA) and IRRI, four award-winning training videos were produced in a strongly participatory process with rural women on post-harvest rice technologies. The South Asia GSI was launched in April under an inaugural meeting of the partners after signing of the agreements and moved quickly to field implementation of a detailed programme. This assesses the extent the existing four videos have been used, to develop and pretest the new video on seed production, to screen and assess the impact of the new video, especially with respect to resource-poor women, and document and evaluate the results.

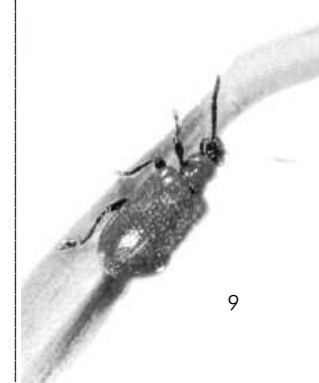
Following the inaugural GSI Workshop in Morogoro, Tanzania 2003, national GSI coordinators for the three East African nations have been selected by Kenya and Tanzania and Uganda. These coordinators are now establishing workplans for each country. In Kenya, capacity building in seed quality from farmer to seed handlers/trader is identified as a key need. The Kenya GSI Workshop, funded jointly by SDC and the Syngenta Foundation, was hosted by KEPHIS in Nairobi in June 2005. The workshop exposed participants from a wide range of Kenyan public, private and civil society institutions to farmer-focused seed work and developed draft outputs and activities for defining the scope and role of GSI in Kenya. The workshop emphasized the significance of linkage between formal and informal seed sectors in Kenya and established an interim Kenya GSI Steering Committee to expand the GSI theme and pilot programme into a national programme of interrelated activities.

A presentation on the GSI was made by Noah Phiri (CABI-ARC) during the seed workshop at the Forum for Agricultural Research in Africa Conference in Entebbe. This attracted great interest, particularly among the farmer groups represented, as they recognized that this area was greatly neglected and yet of central importance to farmers. As a result, requests for linkage to the GSI have been received from Malawi as well as the countries already involved. Linkage with seed supply programmes led by ICRISAT is being developed as the two programmes address converging ends of the seed quality continuum and are highly compatible.

The GSI coordination team have successfully sought and obtained additional support from DFID Crop Protection Programme to enable lessons from DFID-CPP seed-related projects to be identified and shared into participatory learning materials. The aim is to contribute to the utilization of relevant DFID-CPP research results in national/regional programmes and policies.

The GSI website (URL [www.gsi-cabi-bioscience.org](http://www.gsi-cabi-bioscience.org)) has been refined and launched. News, features and reports of past and ongoing GSI activities are regularly posted. The intention is that the site will come to be used interactively as a platform for exchanging experiences around themes of GSI interest and concern.

*Contacts M. Rutherford ([m.rutherford@cabi.org](mailto:m.rutherford@cabi.org)) CABI UK Centre, N. Phiri ([n.phiri@cabi.org](mailto:n.phiri@cabi.org)) CABI Africa Regional Centre. Funded by the Swiss Agency for Development and Cooperation (SDC) and the Syngenta Foundation.*



## Sustainable Access to Agroforestry Knowledge, Technology and Information (SAAKTI), Bangladesh

SDC has been working in the agroforestry sub-sector since 1987, largely in Rajshahi. The main emphases have been on the promotion of local commercial fruit and timber nurseries (implemented by SDC), and using the farmer field approach to focus on intensified and improved practices of vegetable cultivation and agroforestry in the homesteads (implemented by CARE). More recently a new dimension was added to include working with small farmers to improve their capacities for managing their homestead and other land resources using the concept of agroforestry.

The Sustainable Access to Agroforestry Knowledge, Technology and Information (SAAKTI) initiative is an agroforestry knowledge management initiative and aims to promote a system, owned by existing national stakeholders, that will provide farmers throughout Bangladesh with access to the best information and advice regarding the utilisation of agroforestry for the improvement of their livelihoods. This initiative is implemented by the National Agroforestry Working Group (NAWG) with support from Intercooperation (Switzerland).

CABI made two missions to Bangladesh to support this programme – an exploratory mission and a follow up mission, to provide guidance to the national initiative in developing action plans and implementation strategies for the effective realisation of the goal and objectives of a sustainable agroforestry knowledge management system.

In the exploratory mission, the components of knowledge management (knowledge compilation, knowledge distillation, knowledge sharing, knowledge validation, knowledge gaps) were discussed with relevant agroforestry stakeholders.

All NAWG stakeholders who contributed to the discussions were enthusiastic about the future potential to work together effectively for the benefit of the poorest farmers within Bangladesh. It became clear that there are three main areas of challenge that must be addressed for the aims of the National Agroforestry Knowledge Initiative to be achieved.

1. There were pragmatic comments about the difficulties that arise when institutions with different mandates work together on a common programme. This type of collaboration can only work if the common programme is institutionalised. Ownership, leadership, vision,

and effective management will be required from all NAWG stakeholders.

2. A knowledge management approach relies heavily on certain principles, but significantly that 'all perspectives have value'. This may be difficult in practice, and strong facilitation will be required to allow all voices to be heard.

3. Although information technology facilities are poor in most of the institutions visited, even where were present they seemed to be under-utilised.

The general objective of the second mission was to support NAWG and concerned national research institutions and extension agencies to plan strategies and actions for effective communication of knowledge and information regarding agroforestry to the front line extension workers and farmers. The mission had three objectives:

1. To make a participatory appraisal of the existing communication strategies and means (human resource and other facilities, media etc.) of NAWG and its member organisations.

2. To identify needs for, and ways to, improve the communications systems and programmes of the stakeholders (including co-ordination).

3. To help NAWG and its member organisations plan strategies and actions for the improvement of communication and knowledge and information on agroforestry to front-line extension workers and farmers.

Across the NAWG member institutions there are many communication activities. However, within most institutions, these activities are not co-ordinated and generally there is no quality control, monitoring and evaluation or impact assessments carried out. At institution level there is no policy on the strategy, management, implementation or standards for communication with target audiences.

At the end of the workshop participants felt they had benefited from this sensitisation, and anticipated support in the future to use this new knowledge. During the workshop there was a clear evolution to understanding the need for communication strategies.

The mission made suggestions for maintaining the momentum on developing communication strategies for the NAWG members.

Contacts E. Dodsworth (e.dodsworth@cabi.org)  
*Funded by the Swiss Agency for Development and Cooperation (SDC)'s Sustainable Land Use Programme, Bangladesh, implemented by Intercooperation.*

## CABI Compendium Programme: Swiss Support - Public and Private

The Joint Development Consortia Workshop for the Compendium Programme was held at CABI, Wallingford, UK on 29-30 September 2005. The workshop was attended by representatives from AIDWORLD, Australian Government Department of Agriculture, Fisheries and Forestry, Bayer Crop Science (Germany), Canadian Food Inspection Agency, Department for Environment, Food and Rural Affairs, European Plant Protection Organization, Food and Animal Residue and Avoidance Databank (FARAD) – National Science Council, USA, Iowa State University, Syngenta (Switzerland) Universiti Putra Malaysia, USAID, USDA Animal and Plant Health Inspection Service and USDA Foreign Agricultural Service.

CABI reported to the workshop the developments that had taken place in the ongoing development of the Crop Protection, Animal Health and Production, and Forestry Compendia. In addition an update on the progress of the new Aquaculture Compendium was made available as well as the status of the proposed Invasive Species Compendium.

A focus throughout the year has been in training and outreach. Lesley McGillivray planned and delivered a one-week training event in using the CPC as a desktop tool at the Indian Council of Agricultural Research. The event was lively and the participants gained an understanding of the use of such electronic information tools to support their decision-making in their research and teaching environments.

A pilot study, funded by CABI's Partnership Facility, was done to evaluate the use of e-mail for training. Training sheets were updated and users from sub-Saharan Africa who had benefited from a Rockefeller Grant to receive the CPC were contacted. They were provided with an updated version and received training, by e-mail, over five days from Compendium trainers in the UK. The conclusion of the study was that electronic mail may not be the best mechanism of training in the use of electronic information tools. E-mail had been chosen as although it is not interactive it can channel a question and answer process that could manage a learning process and is low cost to users and is economical on its bandwidth requirements.

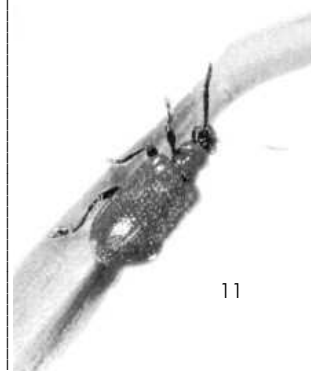
CABI Commissioned a small study to look at the 'Bandwidth Optimization of the Online CABI Compendia'. AIDWORLD carried out the study and put forward suggestions that would enable better access to online delivery of the Compendia where bandwidth is poor and/or connectivity to international telecommunications is intermittent.

The major development in the compendium programme in the near future is the development of an Invasive Species Compendium.

Contact: [compend@cabi.org](mailto:compend@cabi.org); for more information, see [www.cabicompendium.org](http://www.cabicompendium.org). Funded by CABI Compendium Development Consortium, including public and private Swiss organizations.



**CPC Training at the Indian Council of  
Agricultural Research**



## Integrated Pest Management of Cabbage Insect Pests in DPR Korea

This SDC funded project is to improve brassica production by implementing an Integrated Pest Management (IPM) approach to suppress major cabbage insect pests, thereby strengthening sustainable agriculture and food security in DPR Korea. Problems with cabbage insect pests developing resistance to insecticides have increased greatly in recent years. While in 2003 the activities of the Cabbage IPM project, concentrated on the experimental implementation of the new biologically based IPM concept on a small-scale, in 2004 and 2005 the area was considerably extended to about 150 ha, representing the majority of the white cabbage cultivation on the five Co-Farms involved.



### Yield measurements by farmers in DPR Korea

During the cabbage IPM implementation in 2005, farmers were supported weekly by visits of the Cabbage IPM Focus Group, providing technical advice on how to use the monitoring and economic threshold model, technical inputs, and training. Data gathered by farmers applying the monitoring model were tested in see if cabbage yield could be increased when applying the new IPM concept (using bio-pesticides and following an economic threshold model if treatments are necessary) instead of following the traditional plant protection concept (using chemical insecticides

and following a calendar spraying approach). The experimental set up was implemented at all five participating Co-Farms, and the infestation rates and the impact on yield at harvest were analysed. Based on these results, the increase of cabbage yield through the implementation of the new IPM concept was quantified with supporting statistics. In general, yields from early cabbage varieties were lower than those from late varieties. Without exception *Bt* bio-pesticide treated fields achieved higher yields than traditional chemically treated fields. Co-Farms implementing IPM in white cabbage benefited from increased yields in the range 30% to 70% for early varieties and 10% to 65% for late varieties. Costs for bio-pesticide applications (from cabbage transplanting to harvest) are about two times higher than costs for chemical treatments. However, the additional revenue of about 30% through the higher cabbage yield by far exceeds the additional costs for the bio-pesticide. Feedback from farm managers was again highly positive, expressing their commitment to further implement the new IPM concept in the future.

Parallel to the data collection, steps were taken to further develop Co-Farms into "Model Cabbage IPM Co-Farms" by implementing more integrated crop management (ICM) tools. Intercropping, crop rotation, conservation of natural enemies through flowering plants and the introduction of a new crop, leek, have been implemented on a small scale at each Co-Farm.

*M. Grossrieder, B. Kiefer, U. Kuhlmann (u.kuhlmann@cabi.org) in collaboration with Prof. T. Hoffmeister (University of Bremen, Germany), Kang Song Il (Plant Protection Institute of the Academy of Agricultural Sciences, Pyongyang, DPR Korea). Funded by the Swiss Agency for Development Cooperation (SDC).*

## Training for Capacity Building in DPR Korea

This SDC funded project component is for capacity development at different levels. It comprised the thorough education of the "Cabbage IPM Focus Group" at the beginning of the project, technical trainings on the Co-Farms, as well as on-farm implementation of a Farmer Participatory Training (FPT) unit for farmers, work team and sub-work team leaders in 2004. In view of the success of the cabbage IPM implementation programme, a large-scale shift towards a more sustainable agriculture, with IPM as a key component, is planned. This requires effective capacity building at different levels as well as a sustainable system for knowledge transfer within and between these levels.



**Participants of on-farm training try to identify pests and natural enemies, supported by the trainers**

During a five weeks visit, the Cabbage IPM Focus Group was first prepared to act as Master Trainers. They were further trained in IPM and introduced to the participatory methods used in extension and dissemination. Using the newly acquired methods, the Cabbage IPM Focus Group trained Co-Farm and County Extension Officers to enable them to transfer the implementation of the IPM approach at the Co-Farms in several counties of DPR Korea. During the training, knowledge on biological control such as the history and significance of biological control was transferred. Transfer of knowledge in cultural control practices included crop rotation, soil fertility, intercropping, seedling production, and sanitation practices. The focus on chemical control covered the impact of pesticides on health and environment, alternative pesticides such as *Bt*, and the economic threshold model as a decision-making tool. Knowledge was transferred through field demonstrations, participatory training exercises and theoretical classroom sessions.

In the next phase, extension officers transferred their IPM knowledge to farmers, using the same participatory approach. They were supported and supervised by the Cabbage IPM Focus Group and CABI staff. A two-days training course was conducted at four Co-Farms each giving a theoretical overview on biological, cultural and chemical control in an IPM approach. Hands-on training in the cabbage field included the identification of cabbage pests and natural enemies, pest-predator relationships, the comparison of pesticides and their impact on pests and natural enemies, prevention of diseases, economic threshold model, and the application of *Bt*.



**Participants of on-farm training observing a natural enemy**

Participants in both the trainers' course and on Co-Farms showed a high interest in practicing IPM. The use of participatory extension methods was new for trainers, and also for participants on the Co-Farms. The feedback showed that both the newly trained trainers and the on-farm participants were highly satisfied with the training contents and methods.

*B. Kiefer, M. Grossrieder, U.Kuhlmann (u.kuhlmann@cabi.org) in collaboration with the Plant Protection Institute of the Academy of Agricultural Sciences, Pyongyang, DPR Korea. Funded by the Swiss Agency for Development Cooperation (SDC).*



## Implementation of Asian Corn Borer IPM in DPR Korea

This SDC funded project is for the sustainable control of Asian corn borer (ACB), an economically important maize insect pest in DPR Korea. Maize production will be improved through an Integrated Pest Management (IPM) concept consisting of cultural, biological and chemical control techniques. The most important biological component is based on the release of *Trichogramma* wasps. These beneficial insects are able to kill ACB in the egg stage and thereby help the farmer to avoid economic damage in the maize crop.



**Dr Feng Zhang and Prof. Wang Zhen-ying with the Maize IPM Focus Group before the release of *Trichogramma* wasps**

Based on the project implementation on four Co-Farms (Namsam Experimental Station, Wongyo, Sokgyo and Paekgok Co-Farms) in 2005, results show clearly that, through the IPM concept, maize yield can be increased and thereby enhance sustainable agriculture and food security in DPR Korea. In *Trichogramma* release field plots maize yield has been increased by 20% to 40% in comparison to no-release field plots. Efficacy of *Trichogramma* releases was also demonstrated by measuring the following parameters in release field plots compared to no-release field plots: (1) ACB egg parasitism rate (increased); (2) number of ACB larvae (decreased); (3) tunnel length with frass of ACB larvae (reduced); and (4) damage to maize ears (reduced). Feedback from Co-Farm managers involved in the Maize IPM Programme was positive and they stated that were very much satisfied with the results of implementing Maize IPM in 2005.

Other important project components focused on the successful establishment of an Experimental *Trichogramma* Rearing Facility at the Plant Protection Institute of the Academy of Agricultural Sciences (PPI-AAS) and on the establishment of a Biocontrol Product Focus Group. This Biocontrol

Product Focus Group consists of members representing all project partners (PPI-AAS, Ministry of Agriculture, SDC and CABI) and has the task to establish County *Trichogramma* Rearing Factories at the Plant Protection Station of Pyongyang City and in Koksan county.

Capacity building through knowledge transfer was also successfully implemented through provision of two thematic training courses in China, which were highly relevant to Maize IPM Focus Group.



**Prof Zheng Li from Hengshui Tianyi Bio-Control Company provides information about building *Trichogramma* production factories**

F. Zhang, M. Grossrieder, U. Kuhlmann ([u.kuhlmann@cabi.org](mailto:u.kuhlmann@cabi.org)) in collaboration with the Institute of Plant Protection of the Chinese Academy of Agricultural Sciences in Beijing, P.R. China; Hengshui Tianyi Biocontrol Company Ltd in Henghui, P.R. China; and the Plant Protection Institute of the Academy of Agricultural Sciences and the Ministry of Agriculture, Pyongyang, DPR Korea. Funded by the Swiss Agency for Development and Cooperation (SDC).

## Tomato Integrated Production in Kosovo

CABI is implementing a three-year SDC supported programme designed to reduce poverty by increase of knowledge and productivity through economically, environmentally, socially and institutionally sustainable IPM measures (see Project Report p.8). In the Kosovo, the project builds on a previous collaboration between CABI Switzerland Centre and the Swiss NGO Intercooperation (IC), mandated by SDC to implement the Swiss Project for Horticultural Promotion in Kosovo (SPHP-K). The activities within the Integrated Production (IP) Component of the collaborative IC-SDC-CABI initiative concentrate on supporting the development of IP at different levels. On the one hand, the acknowledgement of IP at the policy level in Kosovo is essential to create a legal and enabling policy framework. On the other hand, farmers too need to appreciate the advantages of implementation of IP at field level. Both processes need to be implemented



simultaneously to achieve tomato IP in Kosovo.

### Participants carry out an Agro-ecosystem Analysis and present results to the TOT group

IP is an advanced sustainable agricultural production system, in which producers have to follow certain guidelines to be recognized as IP producers. The Ministry of Agriculture, Forestry and Rural Development (MAFRD) supported by SPHP-K and CABI, are currently preparing such a conceptual framework for IP in Kosovo. During a CABI mission in February 2005, a workshop was held to explain and discuss the IP Technical Guidelines of the International Organization for

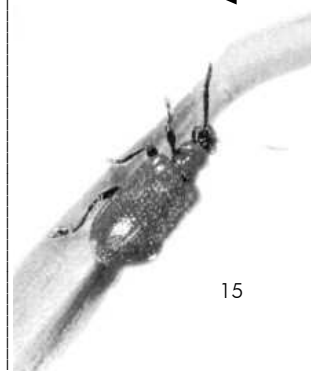
Biological Control of Noxious Animals and Plants (IOBC) in detail. As a result, approximately 20 local experts established a Steering Committee to develop and establish a "National IP Technical Guideline for the Kosovo".

The SPHP-K identified tomato farmers' heavy reliance on pesticides and lack of knowledge on IP as constraints. Since participatory methods of farmer training can be effective to improve knowledge on IP, it was agreed to train farmers following the Farmer Participatory Training (FPT) approach. Capacity building of facilitators was needed in the areas of IP, concepts of FPT and facilitation skills. CABI trained master trainers (TOT – Training of Trainers) and backstopped subsequent FPTs in Kosovo. A TOT activity was carried out in March 2005. The aim of this training course was to equip future facilitators with methods, skills and knowledge to facilitate and implement FPT in tomato IP in Kosovo. Two FPTs started in May 2005 with the sowing of late crop tomato. A basic component of FPT meetings was the Agro-Ecosystem Analysis (AESA), which allowed

the farmers to become more familiar with pests, natural enemies and diseases; as well as the influence of abiotic factors such as humidity and temperature. Based on the analysis, the group of farmers decided which management actions needed to be taken in the IP-plot. Furthermore, special topics such as cultivation practices, disease development or natural enemies were included. Two further backstopping missions were carried out to support SPHP-K staff with regard to the FPTs. Together with SPHP-K staff and trainers, the strengths and weaknesses of FPT activities were identified, and strategies for improvement were developed. SPHP-K and MAFRD are both

convinced that FPT is an appropriate approach to make farmers aware of IP and achieve IP adoption.

*B. Kiefer, M. Grossrieder and U. Kuhlmann (u.kuhlmann@cabi.org) in collaboration with Intercooperation, Priština, Kosovo. Funded by the Swiss Agency for Development and Cooperation (SDC), Bern, Switzerland through the project "IPM Advisory Group – Advancing IPM for Development (p. 8).*



# About CAB *International*

## **About CABI**

Established in 1910, CABI is a not for profit organisation, owned by over 40 Member Countries. Through partnership with these countries and our international networks of people we address local needs worldwide. Our activities encompass scientific publishing, research and communication and link science directly to rural communities.

## **Our mission**

CABI improves people's lives worldwide by providing information and applying scientific expertise to solve problems in agriculture and the environment.

## **Meeting our mission**

Our mission and direction are influenced by our Member Countries who help guide the activities we undertake as a business and ensure we deliver services that meet real needs and demands.

We publish books, journals and scientific research, aiming to further science and its application to real life.

We research agricultural and environmental issues, aiming to improve people's lives in direct and indirect ways.

We are experts in the communication of science. We help people to learn from research and share knowledge and best practices concerned with agriculture and food, thereby empowering and informing their choices.

We create innovative IT-related products than enable relevant knowledge to be readily accessed in usable forms.

We remain aware of the impact our activities are having on improving agriculture and the environment, both in the developing and developed world's. CABI's activities contribute directly to achieving the Millennium Development Goals, particularly those concerned with poverty reduction, environmental sustainability and partnership for development.

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*Note. The name used above for CABI's Regional Centres reflects the latest changes, made since the main Annual Report was prepared. Changes in the general e-mail addresses will follow.*

