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CABI in review 2006

KNOWLEDGE FOR LIFE

contents

our mission

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

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KNOWLEDGE FOR LIFE

I am extremely pleased to report that after a year of hard work and significant change, CABI is now an organisation which yields a stronger and more robust financial base. We now have a clearer focus on our customers and the needs of both donors and beneficiaries.

For the second year in succession, CABI has recorded significant financial improvements, with the operating surplus (on a like-for-like basis) almost three times that of 2005. This has been delivered through the implementation of more rigorous financial planning and tighter control of our operating costs.

Now CABI has a single identity, we have a fresher, more modern and bold image which covers all our activities. This change, however, goes much deeper than simple aesthetics; it is one of an operating philosophy, not just marketing imagery.

As an organisation we are actively focusing on delivering the benefits from CABI's unique range of skills, which go all the way from basic scientific research, through activities with poor rural farmers in developing countries, to sophisticated systems of information management and retrieval.

The case studies within this review reflect how CABI is actively developing the synergies between these capacities and is, as a result, delivering benefits to both developed and developing countries.

The stories include:

- news of how two of our leading products, CAB Abstracts and the Crop Protection Compendium, are saving Australian researchers millions of dollars in research time
- a look at efforts to improve coffee quality in Ethiopia by working with farmers and educating them about enhanced processing techniques
- details of a pioneering research project to find biocontrol alternatives to pesticides in Chile, one of our member countries
- an overview of the work being done with farmers in India, Zimbabwe and Malawi to help control the White Stem Borer, an invasive beetle which is threatening their coffee trees

The challenge for 2007 onwards is for CABI to build on this stronger base, with a more outward looking focus, to enable us to get closer still to our customers, donors and the beneficiaries of our work.

We will continue to develop new approaches to capture and respond to the demand of our member countries and also to assess the long-term impact of our work in terms of its social and economic results and not just its scientific merits.

This annual review is designed to provide an informative and reflective account of CABI's progress in 2006. It is aimed at member countries, donors, partners, customers and of course our hardworking and loyal staff – without whom, our invaluable work would not be possible.

"The challenge for 2007 onwards is for CABI to build on this stronger base, with a more outward looking focus, to enable us to get closer still to our customers, donors and the beneficiaries of our work."

Trevor Nicholls, CEO

CABI's year

mobile plant clinics

During a visit to Uganda to develop a network of mobile plant clinics, CABI's Eric Boa recorded positive results from one pilot clinic. In less than two hours, the clinic attracted an impressive 42 queries on 14 crops from 22 plant patients.

january

East African Biological Resource Centres

CABI's David Smith and Jane Frances Asaba facilitated workshops at the University of Dar es Salaam, Tanzania and in Kampala, Uganda.

These workshops are a step towards establishing microbiological resource centres and support networks in East Africa.

The centres will include facilities for long-term preservation of microorganisms, and provide the scientific basis for the establishment of biotechnology enterprises exploiting the microbial biodiversity of East Africa.

february

one CABI

CABI undertook a major strategic review to re-shape the organisation in order to better fulfil our mission in the 21st century. As a result the different divisions of CABI were reunited under a single logo, reflecting the synergies across all our activities.

Aquaculture Compendium launched

The Aquaculture Compendium is a time-saving encyclopaedic, interactive database that draws together scientific information on all aspects of aquaculture production and health. It includes information on cultured species, diseases, technology, seed and growout management of inland freshwater, brackish water culture and mariculture.

march

CAB Abstracts milestone

CABI reached an impressive milestone when the 5 millionth scientific abstract was added to the CAB Abstracts database.

three themes emerge

As a result of the move to a single brand identity, and in line with our mission-orientated development projects, we developed three key themes: invasive species, commodities and knowledge for development.

These themes will form the focus for activities conducted by our International Development Team.

april

providing access to hard-to-find information

We launched CAB Abstracts Plus, an invaluable full text enhancement to CAB Abstracts.

Many researchers felt that although they can find much of the full text content indexed in CAB Abstracts, their work would benefit from being able to source hard-to-find and sometimes obscure content. After listening to their feedback CABI identified the most important material, obtained the full text content, digitised it, populated the database and launched CAB Abstracts Plus.

CAB Abstracts Plus is designed to provide access to thousands of additional documents that are considered difficult to obtain, yet are central to a researcher's knowledge needs.

may

China – CABI strategic review

Following the visit of a CABI Senior Delegation to China led by Dr Trevor Nicholls in early May 2006, the Chinese Ministry of Agriculture and Chinese Academy of Agricultural Sciences put forward a proposal to carry out a joint Strategic Review on the CABI-China Partnership in June 2006. The review will analyse and study CABI's expertise, main fields of research, and priority business areas and identify how they correspond to China's needs in related areas.

june

Cambridge University Press acquires CABI journals

Cambridge University Press and CABI announced the acquisition by Cambridge University Press of the CABI primary journals list.

This consisted of 15 titles either owned or published by CABI on behalf of various Learned Societies.

The CABI list expands and complements Cambridge University Press's existing journals portfolio of over 200 academic and professional journals and significantly builds its collection in the life sciences.

july

controlling the threat of Himalayan balsam

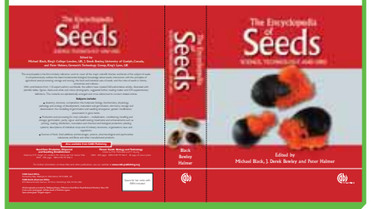
Scientists from CABI Europe – UK teamed up with colleagues from CABI South Asia in a survey to collect natural enemies of Himalayan balsam in the plant's native range, the Himalayas. Encouragingly, Himalayan balsam exhibited a high degree of natural enemy damage by both plant pathogens and arthropods. Almost all parts of the plant showed signs of damage and, where the plant was attacked by a combination of natural enemies, this severely damaged the plant.

The first phase of the biological control of Himalayan balsam concluded there is considerable potential to control this weed using biocontrol methods.

august

ground-breaking reference book published

The Encyclopedia of Seeds is the first authoritative reference work to give an extensive insight into all aspects of seed biology, seed technology and the uses of seeds. Since its publication, sales of the Encyclopedia of Seeds have been extremely impressive.



september

CABI proposes natural control for ragwort

CABI presented plans to develop a fungal spray which would target ragwort specifically and would infect and kill the weed at a critical growth stage. This method would provide a safe, less labour-intensive and environmentally sound control option for ragwort.

In order to start phase one of what could develop into a three phase project, CABI is looking to secure funds from a consortium of interested stakeholders.

october

USDA co-hosts CABI's annual consortium workshop and invasive species compendium workshop

These workshops were held at the United States Department of Agriculture (USDA) and opened by Chuck Conner, Deputy Secretary of Agriculture. Dr Trevor Nicholls, CABI CEO also spoke at the opening.

The workshops saw a series of 'firsts' for CABI: it was the first time CABI had held an inception workshop alongside the annual workshop; was the first time the annual workshop was held outside the UK; and was also the first time that USDA had acted as co-hosts. The aim was to develop an Invasive Species Compendium to provide the knowledge needed to control invasive species on a global scale.

november

CABI wins deal to supply databases to German research community

CABI proudly announced that the Deutsche Forschungsgemeinschaft (DFG) had purchased a national licence for CAB Abstracts Archive and all four Compendia products: Forestry, Aquaculture, Animal Health and Production and Crop Protection.

The agreement means that the CABI databases will be available to the German research community nationwide.

All German citizens visiting academic libraries for scientific information will also have free access to the CABI content covered under the licence.

december

what is CABI?

Our activities encompass scientific publishing, research and communication and we aim to bridge the gap between the discovery of scientific knowledge and its application in solving real-life problems.

Established in 1910, CABI is a not-for-profit organisation, owned by 45 member countries. Through partnership with these countries and our international network of people, we address local needs worldwide by ensuring the activities we undertake fall directly in line with their specific scientific needs and demands.

CABI people

At the heart of CABI's success are the loyal and hardworking people who make it happen. We have over 350 staff based in 16 countries around the world, all of them experts in their field. From microbiologists, pathologists and ecologists to publishers and content editors we have the scientific expertise to make a real difference to people's lives worldwide.

scientific publishing

We provide easy access to valuable scientific information

We publish CAB Abstracts, a world-leading bibliographic database covering agriculture, the environment, public health and nutrition, animal and plant sciences, and tourism. We also publish multimedia compendia, books, journals and internet resources aiming to further science and its application to real life.

facts about scientific publishing

In 2006 we:

- published 77 new books
- reprinted 143 books due to demand
- exceeded the 5 million milestone for CAB Abstracts

scientific projects and consultancies

Diagnosing plant and pest problems in the field, developing and implementing control methods, communicating best practice to farmers and advising at policy level on trade and quarantine issues are examples of the type of global issues tackled by our international development team.

We focus our work on three key scientific areas in international development:

commodities

CABI focuses its research, training and consultancy services on coffee, cocoa, bananas and cotton with the primary goal of helping smallholder farmers make a sustainable living from them. Our scientists engage in a range of activities which include researching plant diseases and pests, advising farmers on alternatives to pesticides and providing advice at policy level on trade and quarantine issues to improve farmers' livelihoods and commodity sustainability.

invasive species

We are proud to be leaders in managing the global threat of invasive species in agriculture and the environment. Our work on the invasive weeds Japanese knotweed and Himalayan balsam have been well documented in the press and we are currently working with coffee farmers in India to develop effective control methods for the invasive beetle, White Stem Borer (see case study on page 23).

knowledge for development

We work to assist developing country institutions and programmes in the acquisition, management, communication, and effective use of agricultural and environmental information and knowledge in order to improve people's lives.

facts about scientific projects and consultancies

In 2006 we:

- worked on over 300 projects worldwide
- worked in 67 countries
- worked on 34 invasive plants worldwide

microbial services

We provide unique microbial services and consultancy to businesses, academic institutions and government departments. We house the UK's largest collection of fungi, numbered at over 28,000 species with another 400,000 freeze dried samples in our Herbarium. We use this resource and the expertise of our scientists to offer a range of services to business, including microbial identifications, sales, preservations, patenting, training and consultancy.

facts about microbial services:

- we have Sir Alexander Fleming's first Penicillin strain within our collection
- in 2006 we worked to identify fungi on cruise liners, in museums and breweries, and for forensic investigations

CABI worldwide centres

CABI Europe – UK
Ascot, Egham & Wallingford, England

CABI Europe – Switzerland
Delémont, Switzerland

CABI North America
Cambridge, Massachusetts, USA

CABI Caribbean & Latin America
Curepe, Trinidad & Tobago

CABI Africa
Nairobi, Kenya

CABI South Asia
Rawalpindi, Pakistan

CABI Southeast & East Asia – China
Beijing, China

CABI South Asia – India
New Delhi, India

CABI Southeast & East Asia
Selangor, Malaysia

CABI case study locations

Bangladesh's plant doctors

Albanian apple farming

Bhutan's prized fungus

Pakistan's livestock production

Australian scientific researchers

India's invasive beetle

Ethiopian coffee

Chile's pesticide alternatives

CABI member countries

Australia
Bahamas
Bangladesh
Botswana
Brunei Darussalam
Burundi
Canada
Chile
China
Colombia
Côte d'Ivoire
Cyprus
Gambia
Ghana
Guyana
India
Jamaica
Kenya
Malawi
Malaysia
Mauritius
Morocco
Myanmar
Nigeria
Pakistan
Papua New Guinea
Philippines
Sierra Leone
Solomon Islands
South Africa
Sri Lanka
Sultanate of Oman
Switzerland
Tanzania
Trinidad & Tobago
Uganda
United Kingdom
Vietnam
Zambia
Zimbabwe

UK Overseas Territories

Anguilla
Bermuda
British Virgin Islands
Montserrat
St Helena

Bangladesh's plant doctors

Plants with pest and disease problems are a major source of concern for farmers around the world, and nowhere more so than in developing countries. For many subsistence farmers a healthy crop can mean the difference between a plentiful food supply and the possibility of going without.

Farmers will often turn to their peers or seek advice from pesticide dealers on managing their crop problems. The help they find here can be useful, but if it is inaccurate they run the risk of losing their crops and potentially jeopardising their livelihoods.

CABI's Global Plant Clinic team and partners have established plant health clinics to bring accurate, up-to-date information to farmers in developing countries, thus enabling them to care for their crops in the most effective way.

The plant health clinics advise farmers on pests and diseases the way a health centre does for humans. Consultations take place once a week in public places, such as markets or the village place (central meeting area). The farmers bring samples of their diseased plants for plant doctors to diagnose and prescribe safe, affordable and locally available pest management solutions.

Staff from the Global Plant Clinic support partner organisations such as the Rural Development Agency (RDA), who want to run plant clinics. They offer training courses to RDA staff on how to set up and run clinics and courses on how to produce guidance leaflets on the control of key pests and diseases. When visiting the plant doctors in the clinics, the team also provides expert guidance on diagnosing the more challenging disease specimens and how to control problems.

In Bangladesh, plant health clinics are in operation in the districts of Bogra, Natore and Jessore. From October 2005 to August 2006, over 1000 farmers visited the clinics in the Bogra district alone. The majority of plant problems were resolved on the spot: a testament to the high level of knowledge and expertise held by the plant doctors.

A young farmer, Mr Abdur Rahim was having trouble with the harvest of his bean crop after the branches of the plant began to rot. On attending a plant health clinic, plant doctors diagnosed a fungal infection and recommended a successful treatment. Rahim returned to the clinic a month later, carrying a large bag full of freshly harvested beans from his first harvest, which he presented to the plant doctors as a thank you gesture.

The clinics have proved to be an invaluable source of plant health information for farmers in Bangladesh, and as a result are now an integral part of the culture in rural communities. Increased knowledge has enabled farmers to treat their plants using more targeted and efficient methods and become less reliant on expensive chemical inputs. Not only is this improving crop production, it is also providing a much needed boost to farmer incomes.

Paula Kelly,
Global Plant Clinic Co-ordinator, CABI

continued success
fifty locally run clinics now operate regularly in Bangladesh, the Democratic Republic of Congo, India, Nicaragua and Uganda, and pilots are being run in another six countries.

focus for 2007
to continue to support local organisations who want to set up new clinics. Currently two new clinics are being planned for Ethiopia and Peru.

partners
NGO Shushilan
Agricultural Advisory Society (AAS)
Rural Development Agency (RDA)

getting to the core of the problem

After 50 years of Communist rule, Albania is now experiencing a transition to a free market economy under a democratic government. This new found freedom has opened many doors for the people of Albania, especially in terms of agricultural trade and enterprise. However due to a lack of knowledge about best growing techniques, farmers are struggling to produce high quality commodities which can compete in the global market.

One example is the production of apples. There are currently 20,000 farmers working in apple production in Albania, yet recent figures show that due to the poor quality of their crops, over 90% of apples are imported from neighbouring Macedonia, Greece and Italy.

CABI scientists are working in partnership on a three year project to help improve apple productivity and quality in southeast Albania. The Dutch funded project, which is run in conjunction with international and local NGOs, aims to increase farmers' knowledge of best growing techniques, reduce excessive pesticide use and ultimately ensure that Albanian apples look and taste as good as possible.

Due to a lack of know-how, farmers had always relied heavily on pesticides to control the pests and diseases that threatened their apples. CABI discovered that farmers had little awareness of what to spray, when and how, as well as of natural alternatives.

To address this, project activities in the first season focused on teaching farmers how to reduce their pesticide use and where possible use natural control methods. In one trial session, farmers were taught to adapt the spray equipment and change the nozzle to give a finer and more even spray. Farmers witnessed a drastic reduction in pesticide use whilst efficacy remained the same or was improved.

The training also encouraged farmers to prune the apple trees in winter. This helps the microclimate in the trees' canopies become drier and therefore fungal diseases, such as apple scab, spread less quickly. Effective pruning also produces a better leaf-to-fruit ratio and with more light entering the canopy, fruit formation, colour and overall quality is better. Moreover, when spraying, farmers used less than half the volume of pesticides due to the reduced number of rigorously pruned trees. As a result, farmers have already experienced significant cost savings during the season.

In 2006, a training manual on sustainable apple production was produced by CABI and project partners in English and Albanian. The user friendly manual was well received by farmers and is due to become the basis for future Albania-wide apple information.

Farmers are enthusiastic about the positive changes they've seen in their orchards and praise the project for helping them improve their apple quality. One farmer commented: "without the project we would never have had a harvest like this. The apple fruit quality has improved dramatically and we are also now spraying much less."

The success of this project has been realised by the NGOs who are keen to train more farmers and apply the principles to other important Albanian commodities. This will help farmers improve the sustainability of many different crops and will enable Albanian produce to become more competitive in the ever-demanding global market.

Janny Vos, Integrated Pest Management Specialist, CABI

"Without the project we would never have had a harvest like this. The apple fruit quality has improved dramatically. Also we are now spraying much less."

Albanian project farmer

partners

Albanian NGOs:
Agrinas, Agrinet, Dorcas

International NGO (Dutch based):
ETC

Bhutan's prized fungus

At China's National Games in 1993 two then-unknown Chinese athletes smashed the world records for 1500, 3000 and 10,000 metres: achievements which have not been bettered. After much speculation on how such incredible results were attained, the athletes announced that their success was down to the 'revitalising' properties of a rare fungus, known as *Cordyceps sinensis*.

Cordyceps sinensis, which has been used in Tibetan and Chinese medicine for over 1000 years, infects and kills the caterpillars of Thitarodes ghost moths found in Bhutan and other Himalayan countries. The fungus filled caterpillars are harvested and used in traditional health remedies to increase aerobic performance and boost the immune system.

After the achievements of the Chinese athletes, the demand for *Cordyceps sinensis* soared. Initially, the Bhutanese Government welcomed the increased harvest as a means of securing incomes for thousands of local yak farmers. However, in the wake of the SARS virus outbreak in 2003, the demand for *Cordyceps sinensis* tripled and prices for the fungus now reach US$10,000-$15,000 a kilo.

With so much money to be made, the temptation to over-collect the fungus is proving too much for many local people to ignore. As a result the Government fear that without active intervention, harvest levels will soon become unsustainable.

In a bid to stop the 'caterpillar rush', the Bhutanese Government banned the trade of the caterpillars. However, in 2004 the ban was replaced with tight restrictions and the collection of *Cordyceps sinensis* was limited to one member of each mountain-dwelling family and permitted only between mid May and mid June.

In addition to these restrictions, the Bhutanese Government asked CABI and a number of partners to explore whether *Cordyceps sinensis* levels could be maintained by using sustainable practices. The project aims to establish how much fungus can be extracted at any one time without depleting the population. The team are surveying current population numbers which will be compared on a year by year basis to identify trends.

The scientists are also researching the biology of the fungus and its host moth in order to fully understand the lifecycle of *Cordyceps sinensis* and they have already successfully captured adult moths.

Following the conclusion of the project in 2008, the team's work will be continued by both the Bhutanese Government and the local communities in the Bhutan National Park. Once sustainable farming methods are identified and implemented, both the incomes of local yak farmers, and their prize fungus will be preserved for many more years to come.

Paul Cannon,
Principal Mycologist, CABI

"Through the expertise of CABI and its partners, we are gaining a greater understanding of *Cordyceps sinensis* and its host moth, helping us secure the future of our yak farming community."

Dr Pema Choephyel,
Director of the Council for RNR Research of Bhutan

partners
Council of Renewable Natural Resources Research of Bhutan
Darwin Initiative

improving dairy and meat production in Pakistan

In Pakistan, around 75-80% of the population depend on their crops and livestock to feed their families and make a living. The majority of these farmers live on, or below the poverty line.

Many livestock farmers are reliant on low cost, poor quality feed and sparse grazing areas to rear their animals. As a result, the quality and quantity of dairy produce and meat has been consistently poor, meaning farmers find it difficult to sell their products at the market.

The situation has been further aggravated by the fact that many farmers still practice centuries-old, draconian husbandry techniques, believing they improve the quality of animal produce. These include restricting the animals' access to green fodder, concentrated food and fresh water for 40 days after giving birth, as well as forbidding ventilation.

The Government of North West Frontier Province asked CABI and a number of partners to work with farmers to help improve the productivity of their livestock. The first stage of the project, which centred on four districts in the Malakand Division of Pakistan, focused on educating farmers about techniques to produce better quality feed for their animals. A series of practical training techniques were used to disseminate information on effective fodder production, feed formulation, and hay and silage making.

The project's second stage highlighted the positive effect modern husbandry practices can have on improving milk production. A 30 day trial was set up using two near-identical cows, both of which had recently given birth. One cow was offered green fodder and wheat straw, kept in a ventilated room and was given a fresh supply of drinking water. The other cow was left to the mercy of the traditional husbandry methods. Both animals were milked twice a day and the milk production results were recorded.

The results of the experiment were remarkable. In 30 days, the cow reared using the new techniques had produced 426 litres, nearly double that produced by the traditionally managed cow. The milk produced by the new methods sold 58% more than that produced by traditional methods – evidence that consumers found the 'new' milk tastier. Overall the 'new' cow made a profit of Rs 4312 (US$71.22), whereas along with most cows reared using the traditional husbandry methods, the 'old' cow made a loss of Rs 617 (US$10.19).

After seeing first hand just how profitable their animals can be, farmers in the four districts of Malakand Division are adopting the new farming methods, and as a result are witnessing increased incomes.

educating livestock farmers

"The results of the experiment were remarkable. In 30 days, the cow reared using the new techniques had produced 426 litres, nearly double that produced by the traditionally managed cow."

partners
Malakand Rural Development Project Government of North West Frontier Province (NWFP)

Asian Development Bank

CABI products vital for Australian researchers

An independent report conducted on behalf of the Australian Government found that the work of applied science researchers would suffer dramatically if they were unable to access CAB Abstracts and the Crop Protection Compendium.

The report by the Australian Centre for International Agricultural Research (ACIAR) revealed that without CAB Abstracts, "researchers would take on average 2.5 times longer to find and search relevant information." Users of the Crop Protection Compendium claimed that "doing the same work without the CABI Compendia would be almost impossible."

To gain this information, ACIAR carried out an economic analysis to identify how both products fared against their competitors. Researchers were surveyed on why they used the products, the accuracy of the search functions and how comprehensive they found the overall coverage. Against every category, CAB Abstracts and the Crop Protection Compendium equalled, or surpassed the competition.

Subscribers chose CAB Abstracts over competitors because of value for money, the reputation of the provider, search accuracy and comprehensive coverage. When comparing the coverage of over 500 core agriculture journals, ACIAR found that CAB Abstracts was way ahead of any other product, featuring the highest number of abstracts at 92.1%.

The results for the Crop Protection Compendium were equally as impressive. Users commented that because of its scientific validation of data, speed of access and highly comprehensive coverage of all aspects of crop protection, the compendium is superior to any other product on the market.

Following the survey, ACIAR drew some significant conclusions. They estimated that CAB Abstracts saves each researcher "between 3 and 5 days per year" and the Crop Protection Compendium "between 37 and 54 days per year." When put into monetary terms, both products are estimated to save the Australian research community a remarkable "AUS$1.2 and AUS$2.2 million in research time per year."

By providing fast, accurate and comprehensive access to published research from around the world, CAB Abstracts and the Crop Protection Compendium are evidently increasing the productivity of Australian researchers. It is little wonder then, that life without these resources is not an option.

Alexis Rendell-Dunn,
Content Manager, CABI

"Information in the compendium was authored and validated by more than 1,100 specialists. The broad coverage… makes it a unique product. We have been unable to find any comparisons between it and related products."

ACIAR

controlling the enemy within

Alien and native weeds, insect pests and diseases which take over a new environment and/or out-compete other species are referred to as invasive species. The spread of invasive species is now recognised as one of the greatest threats to the well-being of the planet, costing an estimated £1 trillion in damage to crops, plants, animals and water ecosystems per year.

In the coffee growing regions of India, Zimbabwe and Malawi the threat from invasive species comes from the White Stem Borer, a native longhorn beetle that is invading plantations.

The White Stem Borer bores into the outer layers of the trunk of coffee trees and, unlike many invasive species which only affect the yield of the crop, the borer kills the tree at the root. This is particularly devastating for farmers as the tree takes at least five years to yield a full crop.

In India, the White Stem Borer causes a major threat to its most lucrative crop: arabica coffee; however it also attacks the robusta variety. The threat in Malawi and Zimbabwe is less documented, but due to the continued expansion of their coffee industries, the need for effective control measures is becoming urgent.

CABI was asked to work with farmers, researchers and extension workers in India, Zimbabwe and Malawi to establish the full impact of the beetle, the reasons for poor success with current control methods, and to explore possible new control measures. The project identified that, in India, the annual loss of coffee trees as a result of the White Stem Borer is estimated at ten million US dollars. However, it also revealed that current control methods when used correctly are effective in maintaining borer numbers below the threat of economic damage. The problem in controlling the beetle has been the lack of farmer knowledge on effectively implementing control measures.

To address this, a number of farmer field schools were set up by the team to train farmers on how best to manage the borer. The field schools, which are also running in the African countries, are proving very successful in disseminating important information to farmers.

To enhance the present technologies a pheromone trap (a method of luring borers to a trap using mating scents) has been developed in India and is now in mass production. Current data suggests that in some areas up to 64% of the White Stem Borer population has been caught and eradicated. A similar technology is under investigation in Africa.

Now fully equipped with the knowledge, skills and technologies to protect their crops from the threat of the White Stem Borer, thousands of farmers in India and Africa are once again able to grow the healthy crops required to secure their incomes.

Sean Murphy, Science Director, CABI South Asia – India

partners
Common Fund for Commodities
Central Coffee Research Station, Chikmagalur, Karnataka, India
Lunyangwa Research Station
Malawi and Chipinge Research Institute, Zimbabwe
National Resources Institute (NRI)
International Coffee Organisation
Natural Resources Institute, UK

a video aimed at increasing awareness of the threat of the White Stem Borer has also been produced and is due for broadcast on Indian television networks within the next few months.

perking up Ethiopian coffee

Over the last 10 years, coffee shops such as Starbucks and Costa Coffee have become commonplace in the high streets of towns and cities across the developed world. The increase in demand for coffee has had a knock-on effect in the developing world where it is now one of the major sources of income.

In Ethiopia, coffee generates 60% of total export earnings and employs over 15 million people: equivalent to 25% of the total population. Nearly all of Ethiopia's coffee is produced by subsistence farmers, who depend on less than a hectare of land to make their living.

However, as the majority of Ethiopian coffee is prepared using conventional and less efficient processing techniques, which leave the coffee over-fermented and less desirable, farmers are struggling to attract the market prices required to secure their incomes.

Responding to the urgent need to enhance the incomes of the coffee-dependent farmers in Ethiopia, CABI, in collaboration with a number of partners, embarked on a project to improve coffee quality by teaching improved processing techniques.

The project was initially implemented in 2004, in four districts (Woredas) in south west Ethiopia, and focused on improving the knowledge and skills of farmers, development agencies and extension workers. Along with lectures and group discussions, farmers were given practical training on effective harvesting and post-harvest processing techniques, installing and maintaining new equipment, adjusting the machinery and how to correctly handle the drying materials.

Another important avenue for imparting knowledge to the farmers was the development of user-friendly information materials, both in English and local languages. Thousands of posters, training leaflets and field handbooks were distributed throughout the project area to promote the enhanced processing practices.

As a result of the training, remarkable improvements in coffee quality have been recorded. Prior to the project, only 40% of coffee processed using traditional processing methods was considered of premium quality. Compare this to nearly 100% of coffee produced using the enhanced processing practices and it becomes evident just how successful the training has been.

Globally, the demand for Ethiopian coffee has seen a substantial increase, with farmers now able to sell the coffee produced using improved processing techniques at prices 30% higher than before. The increase in premiums has translated into better household incomes for the Ethiopian coffee farmers, who can once more afford a positive outlook on the future of their coffee industry.

Dr George Isaiah Oduor,
Project Leader, CABI Africa

partners
Ministry of Agriculture and Rural Development of Ethiopia

next step
Due to its success, the project will be upscaled to the remaining 200 coffee-producing Woredas of Ethiopia. This will ensure that all smallholder farmers are given the opportunity to enhance the quality of their coffee and secure their futures.

pioneering the search for pesticide alternatives

For many years chemical pesticides have been used to help farmers control the pests and diseases which threaten their crops. Increasingly, however, there is concern over the effects of pesticide use on health and the environment, together with problems of a lack of efficacy and high cost. As a result the development of 'safer' alternatives is being encouraged by governments around the world.

In a bid to help reduce pesticide use, CABI is using its expertise to find environmentally acceptable and sustainable alternatives for the control of pests and diseases of animals and plants, through the development of biological pesticides (biopesticides).

Biopesticides use naturally occurring organisms, such as fungi, bacteria, viruses and nematodes to control pests and diseases. CABI scientists are world renowned for their success in using living organisms to develop biopesticides. One example is the LUBILOSA project which developed Green Muscle™, a fungal spray product used to control locusts and grasshoppers in Africa. Green Muscle™ has proved extremely successful, reducing locust and grasshopper populations by 80-90% in just 2-3 weeks.

In order to continue its pioneering work, CABI is currently working with INIA in Chile on a project to find and conserve entomopathogenic (insect killing) fungi and nematodes which can be used to develop future biocontrol agents.

Chile is one of CABI's member countries and is a land of environmental extremes, displaying some of the world's driest deserts in the north, rich fertile land in the central regions and near-Antarctic conditions in the south. It is therefore perfect foraging ground for scientists to source fungi and nematodes which exhibit specific ecological adaptations and could therefore be effective for use as biological agents in varying environmental conditions throughout Chile.

The project, which started in June 2006, is funded through the Darwin Initiative and is administered under a grants programme from the UK Department for Environment, Food and Rural Affairs (DEFRA). Already the findings are encouraging: scientists have discovered over 70 isolates of entomopathogenic fungi and 8-10 possible entomopathogenic nematode strains from their first survey. These are currently being examined by CABI and INIA scientists to assess their suitability for use as biocontrol agents.

CABI scientists are confident that their work in Chile will be instrumental in providing better pest control alternatives to local farmers, reducing the use of chemical pesticides and therefore protecting the environment.

Steve Edgington, Project Leader
Insect Pathologist, CABI Europe – UK

partners
Instituto de Investigaciones Agropecuarias (INIA), Quilamapu, Chile

Darwin Initiative (DEFRA), UK

"Already the findings are encouraging: scientists have discovered over 70 isolates of entomopathogenic fungi and 8-10 possible entomopathogenic nematode strains..."

the CABI Partnership Facility

In order to maximise the impact of their work, development agencies around the world are increasingly coordinating their funding efforts.

In 1991, CABI set up the Partnership Facility with donors and developing countries to help deliver our expertise in information, science and communication to meet the needs of developing member countries. This co-ordinated approach enables donors to make a greater impact on the lives of people in developing countries than each donation alone would allow.

what is the Facility used for?

CABI is owned by over 40 member countries. Therefore we are uniquely placed to understand the environmental and agricultural issues that threaten livelihoods in these countries. The Partnership Facility is used to fund CABI projects which directly address these issues.

It is used to fund projects that:

- add value to existing national and regional initiatives
- support critical research programmes for agricultural sustainability
- improve access to information and scientific services for capacity building
- facilitate the introduction of new technology
- enable rapid responses to emergency situations

what are the benefits of the Partnership Facility?

- short-term grants can be transformed into self-sustaining programmes and products
- the high transaction costs that are often associated with individual projects are minimised
- the impact of contributions to multi-donor projects is maximised
- addressing themes of direct relevance to Member Country policies

who supports the Partnership Facility?

The Partnership Facility is supported by CABI's direct income and by government donors, including the Australian Centre for International Agricultural Research (ACIAR), the United Kingdom's Department for International Development (DFID) and the Swiss Agency for Development and Cooperation (SDC).

Private and non-governmental organizations are also beginning to recognize the value of the Partnership Facility. To date we have received contributions from several food companies and charitable foundations, and are currently negotiating with others.

what has been the impact of the Partnership Facility in 2006?

The financial support received through the Partnership Facility in 2006 has enabled CABI to continue taking on new challenges at the request of our member countries. **In 2006 the Partnership Facility funded 17 CABI projects worldwide.**

In response to a direct request from the Minister of Agriculture of Vietnam, and through the Partnership Facility, CABI is using its expertise to help Vietnamese institutions develop the knowledge and skills needed to address food safety issues which are currently constraining agricultural trade.

The Facility has enabled CABI to spearhead a regional initiative to help restore Africa's coffee exports to the profitable levels of 1975. The project aims to improve coffee quality on a sustainable basis to ensure farmers receive the best return for their coffee. This funding enables CABI to work directly with smallholder farmers to educate them on best farming practices.

In 2006, CABI responded to the arrival of cocoa pod borer, a moth threatening cocoa production in Papua New Guinea and South East Asia. Funds from the Partnership Facility have been used to help provide a rapid assessment of the problems posed by the cocoa pod borer and enable CABI's team to advise on the management programmes required to control the pest.

"I am sure that CAB Abstracts Plus will raise the reputation of our Journal and the Faculty of Veterinary Medicine in Belgrade."

Professor Velibor Stojic,
Editor in Chief of Acta Veterinaria,
University of Belgrade, Serbia

CAB ABSTRACTS PLUS

new in 2006 – CAB Abstracts Plus

providing invaluable access to hard-to-find information

At the heart of CABI's publishing activities is the objective of ensuring that scientific studies undertaken in every corner of the world are available to shape research success on the international stage. In order to tackle global issues such as climate change, disease spread and agricultural sustainability, the need for comprehensive, accurate, and up-to-date scientific information is more important than ever.

At CABI, we ensure that researchers and academics can instantly find all the latest international information on agriculture and the environment through our databases and internet resources. CAB Abstracts, our leading database, is the essential knowledge tool for researchers, providing access to over 5 million applied science records covering publications from all over the world.

Because of the extensive reach of our coverage, however, not all of the material we index is easy to access online. Finding the full text of material can be a cause of frustration for librarians and researchers where one-click electronic access is becoming the norm. To alleviate this problem our subject experts have been identifying key, hard-to-find content and working with the relevant publishers to present it more effectively. As a result, CAB Abstracts Plus was launched in March 2006 to provide users with access to the electronic full text of thousands of documents that were considered difficult to obtain, yet central to a researcher's knowledge needs – all linked directly from the CAB Abstracts database.

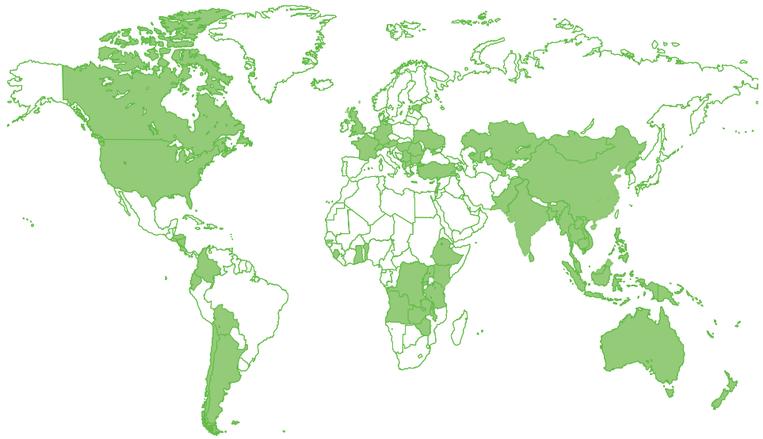
CAB Abstracts Plus is not only a valuable tool for librarians, researchers and students: it also provides a promotional opportunity for authors and publishers of journals that may not have had wide exposure on the international stage. The Argentine Association of Animal Science, Indian Journal of Virology and the Journal of Veterinary Medicine in Belgrade have all expressed their excitement at featuring their material on CAB Abstracts Plus.

Full Text Select is the main component of CAB Abstracts Plus. It contains over 18,000 full text articles, a figure growing by 10,000 each year. Content is not only made up of important journals but also key conference proceedings, and is growing weekly.

Other components include specially commissioned or created content. Full Text Select is therefore supplemented by: CAB Reviews, an online-only publication containing 100 reviews a year from world experts; the Distribution Maps of Plant Diseases and Pests, invaluable sources of information on the presence and extent of important pathogens and pests affecting agriculture and forestry; and Descriptions of Fungi and Bacteria, which provide researchers with standardized, illustrated descriptions of pathogens and other species of economic importance.

CAB Abstracts Plus has been recognised by researchers, librarians, authors and publishers as a unique research tool that makes an invaluable contribution to the globalisation of scientific information.

CABI projects



In 2006 CABI worked in 67 countries, on local, national and global projects.

projects worked on in 2006

61	Commodities
93	Knowledge for Development
123	Invasive Species
48	Other

Total = 325

CABI finances

CABI's accounts were prepared on the basis of International Accounting Standards (IAS) for the first time in 2006. Income from continuing operations grew 2.6% to £18.0m, despite the weakening in the US dollar, in which close to 60% of our Publishing income is denominated.

Publishing continues to generate the bulk of our income, £9,203k in 2006, 51% of the total. This was down 1.5% on 2005 with growth in books and database and abstract products offset by the weaker US dollar and a reduction in the considerable sales of Heritage and Archive products in 2005 which are one-off sales products.

Project income grew 17% to £6,775k and is now 38% of total income. Growth was particularly strong in Invasive Species work and in Knowledge for Development, where CABI significantly increased its work with DFID in the UK for their Research into Use and other projects.

The balance sheet and income statement overleaf are extracted from the financial statements for 2006 on which an unqualified audit opinion was given.

CABI staff figures 2006

200	UK Centre
51	South Asia Regional Centre
21	Africa Regional Centre
24	Switzerland Centre
10	South East Asia Regional Centre
6	Caribbean & Latin America Regional Centre
3	China Office
1	India Office
2	Costa Rica Office
1	Netherlands Office
4	USA Office
1	Australia Office

Total = 324

income statement for year ended 31 december 2006

restated 2005 £'000		2006 £'000	2006 £'000
	continuing operations		
	income		
15,547	sales & project income	16,283	
634	Member contributions	642	
1,065	CABITAX recovery	970	
338	miscellaneous income and recoveries	147	
17,584			18,042
	expenditure		
6,632	staff costs	6,323	
4,933	direct project costs	5,711	
1,761	production	1,433	
1,067	facilities and maintenance	1,143	
783	consultants, freelancers	969	
635	sales and distribution	626	
481	depreciation and leasehold amortisation	384	
271	travel	356	
416	restructuring costs	193	
10	increase in provision for arrears of Member Country contributions	61	
(81)	associated company profits	(8)	
202	other costs	356	
17,110			17,547
474	**operating surplus before interest**		**495**
3	interest receivable	8	
(417)	interest payable	(327)	
(414)			(319)
60	**operating surplus after interest**		**176**
8	**operating surplus from discontinued operations (note 22)**		**3,770**
68	**operating surplus for year**		**3,946**

"Publishing continues to generate the bulk of our income... 51% of the total."

balance sheet as at 31 december 2006

restated 2005 £'000		2006 £'000	2006 £'000
	non-current assets		
12,034	properties – held at revalued amounts	11,822	
911	plant & equipment – held at cost	854	
120	investments accounted for using equity method	128	
13,065			12,804
	current assets		
1,537	inventories: – stock and work in progress	1,607	
	trade and other receivables, net of provisions:		
1,774	– sales debtors	1,942	
91	– from member countries	12	
1,085	– sums owing by project sponsors	1,305	
242	financial assets: – debt instrument asset	190	
1,519	– cash and cash equivalents	2,864	
599	other debtors	786	
6,847			8,706
	current liabilities		
(4,561)	sales income received in advance	(3,011)	
(160)	member contributions in advance	(160)	
(1,620)	sums held on behalf of project sponsors	(2,539)	
(233)	BioNET INTERNATIONAL Fund	(360)	
(903)	trade and other payables: – trade creditors	(773)	
(1,157)	– other creditors	(1,382)	
0	– hire purchase creditors (due within 1 year)	(35)	
(2,527)	financial liabilities	(1,178)	
(56)	provision for restructuring	0	
(11,217)			(9,438)
(4,370)	net current liabilities		(732)
8,695	total assets less current liabilities		12,072
	non-current liabilities		
0	hire-purchase creditor (due between 1 and 5 years)	(74)	
(4,729)	financial liabilities	(4,219)	
(4,729)			(4,293)
3,966	**net assets**		7,779
	financed by:		
242	translation reserve		190
2,624	revaluation reserve		2,544
1,100	accumulated fund		5,045
3,966			7,779

"Growth was particularly strong in invasive species and knowledge for development..."

CABI people

promotions

The emergence of three new themes led to several high profile promotions within CABI:

- **Dr Dennis Rangi**, Executive Director, International Development
- **Dr Sarah Simons**, Global Director, Invasive Species
- **Dr Peter Baker**, Global Director, Commodities
- **Dr Elizabeth Dodsworth**, Global Director, Knowledge for Development
- **Dr Matthew Cock**, Regional Director, Europe Switzerland
- **Dr Roger Day**, Regional Director, Africa
- **Keith Holmes**, Co Director, Caribbean and Latin America
- **Ulrike Kraus**, Co Director and Regional Representative, Caribbean and Latin America
- **Janny Vos**, Key Account Manager, EU
- **Patricia Neenan**, Key Account Manager, North America
- **Dr Shaun Hobbs**, Global Director, Content Development
- **Arthur Healy**, Publishing Partnerships Manager

"At the heart of CABI's success are the loyal and hardworking people who make it happen."

Dennis Rangi,
Executive Director, International Development

"I love the fact that CABI, in a small but very significant way, makes a real and tangible difference to people's lives and I am really proud to be part of the work we do."

Ms Tisha Phillip,
Administrative Assistant

"CABI, to me, is very diverse in terms of people and projects. I enjoy the fact that not everyday will entail the same duties as any regular job. So it is with pleasure that I've accepted my position here and I look forward to the fruitful days ahead."

Claire Teeling,
Content Editor, Environment Team

"My career goals include working towards protecting our environment and my job at CABI allows me to discover what is happening to achieve this end, as well as making this information available to others."

Thanks to all the CABI staff who have provided photgraphs and contributions to this Annual Review, with special thanks to Eric Boa and Paula Kelly for their international photography.

"A fantastic opportunity to develop professionally, while working with one of the industry's leading brands, my role at CABI also allows me to be a part of a unique, dynamic and ethically minded organization."

Paul Rogers,
Regional Sales Manager,
UK, Ireland and Scandinavia

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KNOWLEDGE FOR LIFE

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