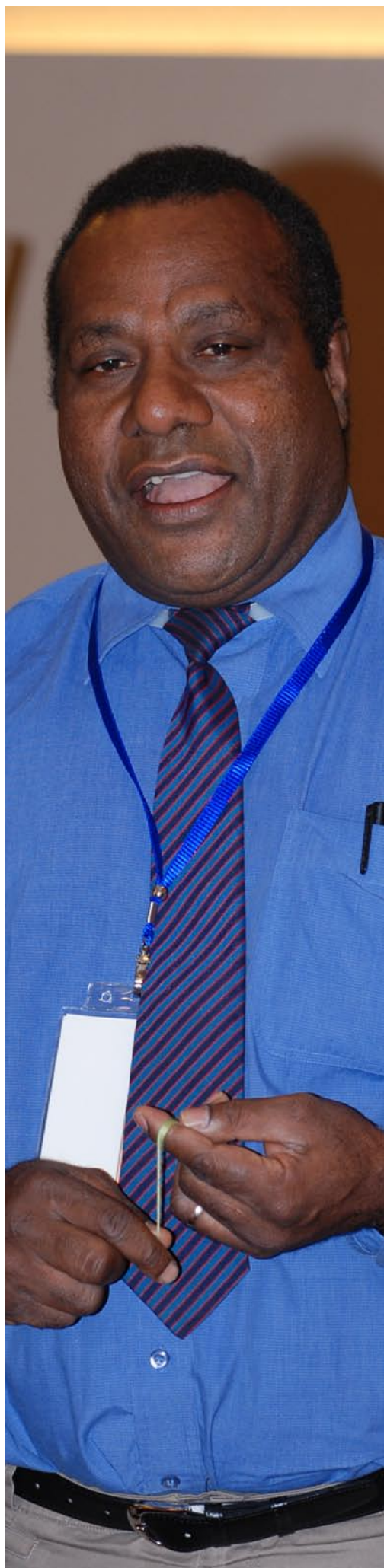


## **CABI Asia-Pacific member country consultation**

**synthesis report**

29-30 November 2007  
Beijing, China



CABI improves  
people's lives  
worldwide

by providing  
information and  
applying scientific  
expertise to solve  
problems in  
agriculture and the  
environment





## contents

04 | Goals

04 | Process

05 | Opening ceremony

06 | Member country objectives

Where we want to go: National priorities and key sub-regional issues among CABI's members

06 | Sub-regional group 1: Australia, China, Papua New Guinea, Vietnam

06 | Sub-regional group 2: Brunei, Indonesia, Malaysia, Myanmar, Philippines

07 | Sub-regional group 3: Bangladesh, India, Pakistan, Sri Lanka

07 | Outcomes: Action plans and responsibilities

08 | Final session (with partners)

08 | Conclusion

09 | Appendices:

09 | Appendix 1: Summary presentation: Chief Executive Officer

10 | Appendix 2: Where we are: commodities, invasive species, knowledge for development

12 | Appendix 3: Trade development and markets

13 | Appendix 4: Institutional capacity strengthening and knowledge management

14 | Appendix 5: Biofuels and climate change (1)

15 | Biofuels and Climate change (2)

16 | Appendix 6: Microbial collections

17 | Appendix 7: ICT and enterprise including animal and aqua culture sectors

18 | Appendix 8: Integrated pest management/invasive species

19 | Contact CABI



## CABI Asian-Pacific Member Countries Regional Consultation Meeting

29<sup>th</sup>–30<sup>th</sup> November 2007, Beijing, China



### goals

CABI's programmes are driven by the needs of our Member Countries. To reinforce this connection, CABI is establishing a series of direct dialogues with Member Countries in each region of operation. These consultations aim to strengthen understanding of our activities and capabilities in support of international development and to build close engagement with the regional priorities of Member Countries. These priorities will help to shape our strategic programmes and to establish the particular forms of mutual commitment and financial resourcing required to deliver our mission.

The Asia-Pacific Member Country Consultation was the second of three such dialogues. The first, for the African region, was held in Nairobi 19-20 September 2007 and the third, for Latin America, is planned for March 2008. As each consultation finishes, CABI staff and regional Member Countries are taking forward the mutually agreed areas of work. By the time of our Review Conference in 2009, we expect work in progress on the consultation outcomes to form the basis of CABI's strategic framework for the medium term. Member Countries will be asked to formally endorse the framework at the Conference.

### process

Liaison Officers or Member Country representatives from 12 Asia-Pacific Member Countries attended the meeting, together with one representative from Indonesia (a former Member) and one from Canada. The meeting itself was a closed business session for Member Countries. However, in the final session, the outcomes were presented to a wider audience of partners, donors, and stakeholders.

Over the two days, the energy and enthusiasm of the Liaison Officers and Member Country representatives was invaluable in identifying key issues and priorities. As potential themes and activity plans were developed together, a spirit of common ownership and camaraderie emerged which bodes well for CABI's future.



## opening ceremony

**Mr Dennis Rangi**, CABI Executive Director for International Development, set the context in which we operate and elaborated on some of the challenges. While food security still remains a major concern, we are faced with new opportunities and threats with issues like biofuels and climate change. Given the global nature of many of these challenges, Dennis emphasised that, with Member Countries in Africa, Asia-Pacific, Europe and Latin America, CABI is uniquely placed to act effectively all at global, regional and local levels. In particular, Member Countries in Asia and Africa need to collaborate closely in several areas and respond innovatively to these issues. Our joint efforts can help break barriers to reach our goals.

Mr Dennis Rangi received the Guest of Honour, Mme Yao Xiangjun, Deputy Director General, Department of International Co-operation, Ministry of Agriculture, China.

**Mme Yao Xiangjun** warmly welcomed everyone to China. Her keynote address focused on three main areas: China's agricultural development; China's experiences and strategies in international collaboration; and China's collaboration with CABI. She elaborated on China's agricultural development and the great progress that has been made since 1978 when China opened up to the rest of the world. She stressed that currently, China manages to feed 21% of the world's population with less than 9% of global arable land. In the last few years the focus has been on development and improvement of the rural economy. This involves many challenges, from addressing water shortages to building capacity through science and technology. Strengthening international collaboration has been one of the important measures in meeting the complex challenges; China is collaborating with a large number of international partners in the process of industrialisation and promoting sustainable agriculture. Notably, China has paid increasing attention to South-South technology and knowledge transfer, capacity building and outreach programmes in Africa and South East Asia. Cooperation with CABI since the 1980s has played a significant role in the enhancement of China's agricultural sector including utilisation of biocontrol; management and control of invasive species; white (microbial) agriculture; and information management, and information access and dissemination. The Chinese government intends to further promote collaboration with CABI through continued cooperation and high-level mechanisms such as the Memorandum of Understanding and jointly-run laboratory. Anticipated areas of work include Invasive Species, Integrated Pest Management, and management of information products and services. Mme Yao emphasised that China was prepared to raise funds with CABI for mutual research, especially with other Asia-Pacific countries, as part of agricultural technology cooperation.

**Dr Trevor Nicholls**, CABI Chief Executive Officer, presented an overview of our work and business basis. Senior staff then described our three International Development thematic focuses: *Commodities*, *Invasive Species* and *Knowledge for Development* (a summary of the CEO's presentation is given in app. 1 and the three thematic focuses in app. 2).

**Dr Gary Whitfield**, CABI's Executive Council (Ex-Co) Chair, gave a personal view of CABI's operations and commended the recent changes. He outlined the 2007 recommendations to Ex-Co for governance changes aimed at clarifying and strengthening the linkage between the Governing Board and Ex-Co, and at achieving greater transparency for Member Countries. He felt CABI's governance structure with several layers could be unwieldy but it was important as it allowed Member Countries to participate in decision making. He then highlighted sixty years of collaboration between Canada and CABI Switzerland. He underlined core areas like biocontrol and weeds where CABI has assisted over the years with building expertise.

**Dr Denis Kyetere**, our Liaison Officer from Uganda, also the Chairperson of the Forum for Agricultural Research in Africa (FARA) and Board member of the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), made a special guest appearance in response to a strong request from our African Member Countries. He gave a first-hand account of our earlier regional consultation with the African Member Countries and emphasised that no one understood more about agricultural issues in their respective regions than Member Countries. He felt Member Countries' knowledge and needs provide the central driver for CABI's mission and should determine the ways in which CABI can best add value to their programmes and processes. CABI Member Countries could extend their work not only to benefit the immediate countries but also to grow innovative linkages and partnerships with fellow Member Countries in Africa. His vision included a true South-South collaboration through CABI.





## member country objectives

**Where we want to go: national priorities and key sub-regional issues among CABI's Members**

Three regional breakout groups worked in parallel, detailing national priorities and sub-regional needs as shown below:



### Sub-regional group 1: Australia, China, Papua New Guinea, Vietnam

#### National and sub-regional issues

- Knowledge brokering service by CABI
- Technology transfer and knowledge management
- Plant pest management including new diseases
- Animal husbandry and diseases
- Food production and food security (including remote areas)
- Trade and market access; value chain improvement, food safety, quality control and certification
- Capacity building: biotechnology, and regional biosecurity
- Water resources and dry land management
- Climate change and adaptation
- Biofuel production beyond food sufficiency (cassava and sweet potato production)
- Better utilization of microbial resources

### Sub-regional group 2: Brunei, Indonesia, Malaysia, Myanmar, Philippines

#### National and sub-regional issues

- Technology transfer from and to Member Countries, field-oriented technology for commodities production and technology commercialisation
- Crop protection and management of plant diseases
- Crop production to include: rice, corn; mango, banana, papaya; rubber, indigenous vegetables, citrus rehabilitation
- Management of Invasive Species of high value crops, e.g. Fusarium wilt (Race 4) of banana, coconut hispine beetle (*Brontispa longissima*), mango pulp weevil
- Livestock and fish
- Capacity-building in research and development (R&D), Human Resource Development (HRD) and expertise
- Market access for agricultural products including halal products; Sanitary and Phytosanitary (SPS) measures, Agri-foods, downstream processing and marketing of products
- Extending oil palm area for edible oils
- Biofuel production and economic feasibility of using sweet sorghum, jatropha, sugarcane and coconut. Also ethanol production from agricultural waste and sweet sorghum; pests and diseases of biofuel crops
- Microbial-collection, developing a regional collection and its utilisation



### sub-regional group 3: Bangladesh, India, Pakistan, Sri Lanka

#### National and sub-regional issues

- Knowledge management and knowledge transfer including to grass roots level
- Survey and management of mango midge, mealy bug
- Biological control of weeds (classical): Invasive Species in cotton, mango, citrus
- Pest management, bacterial wilt, fruit fly
- Trade and access to markets: Good Agricultural Practices (GAP), World Trade Organisation (WTO) preparation, SPS, linking farmers to markets, policy regulation
- Capacity-building in R&D, in crops production like cotton, Intellectual Property Rights (IPR), climate change adaptation (flood, drought, salinity management)
- Biofuel production
- Invasive Species compendia; management of microbial collections
- HRD in microbial collections, biodiversity cataloguing

### outcomes: action plans and responsibilities

In plenary session, the findings of the sub-regional groups were sorted thematically. One exciting possibility, the potential for technology transfer from Australia and possibly China, was considered to be slightly apart. Consequently, this activity would be addressed directly by CABI and the Members Countries concerned.

All the other issues fell into six themes, of which the first three closely matched the agreed priorities of our Africa consultation. The plenary then broke out again into three parallel groups, each with the task of identifying the scope of work and listing key activities for two of the themes. Participants joined the groups focusing on the themes reflecting their particular interest. They developed an outline of an action plan identifying the steps to be taken, the roles of different players, and possible partners and funding organizations.

The details of the findings for each theme, listed below, are summarized in the tables in the Appendices (the first columns in the tables reflect the issues raised in the initial sub-regional breakout sessions):

- Trade development and markets (app 3)
- Institutional capacity strengthening and knowledge management (app 4)
- Biofuels and Climate Change (app 5)
- Microbial collection – use and management (app 6)
- ICT and Enterprise development including animal and aqua culture sectors (app 7)
- Integrated Pest Management/Invasive Species in relation to high value crops (app 8)



## final session (with partners)

The final plenary session opened out the discussion to involve partners and donors. We demonstrated how our plans were being shaped to reflect Member Country and regional needs and outlined the themes that emerged from the consultation process. These plans would be further developed with our Member Countries for our Review Conference in 2009. Panellists for the discussion on *Partnership in Practice* represented Member Countries, donor agencies and partner organisations. Representatives from Pakistan and Papua New Guinea illustrated how CABI had responded to their immediate and longer-term needs, from containment of disease breakout to adding value to national pro-active pest management efforts. The Member Countries appreciated the value of being part of CABI. They requested partners to seize the opportunities for innovative linkages with CABI and to support our plans as these clearly reflect the Asia-Pacific national and regional Member Country agendas.

## conclusion

Both Member Country representatives and CABI staff felt that CABI is truly global in bringing multi-dimensional views together. Overall, the consensus was that the meeting had been extremely positive and was conducted in an open, frank and participatory manner. The Member Country representatives clearly expressed an increased recognition of being part of CABI.

Through the processes of the meeting:

- We critically examined our strengths and weaknesses as a membership organization and suggested improvements
- Our Liaison Officers and Member Country representatives appreciated the new directions in CABI and the current thematic focuses
- We identified common thematic priorities where CABI has comparative advantage
- We developed action plans for 6 prioritised themes and areas of activity in agriculture and rural development

Member Countries and CABI have shown they are an association of equal partners with common interests. During the meeting we generated a great deal of goodwill and enthusiasm and realise we need to get the most out of our membership network in taking work forward and in deriving maximum benefits for us all. The summary tables of potential themes and activity plans are a clear outcome of an effective and transparent partnership. The consultation enabled us to identify priority activities addressing the needs of Member Countries in areas of our comparative advantage. We can take the plans forward confidently with a commitment to develop them into practical programmes in each region. Strengthening relations with existing partners and networking with new ones, both our Member Countries and those employed within the organization need to turn these ideas into fully-funded programmes. Member Countries should make use of national and regional processes to help obtain development assistance funds and to mobilize and draw upon CABI's staff and information resources.

Member Countries and CABI together serve as an invaluable vehicle to put in place the right conditions and to exert through CABI's network to facilitate with long term growth for alleviation of poverty.







## appendices:

### appendix 1: summary presentation: Chief Executive Officer



**Dr Trevor Nicholls**, our Chief Executive Officer (CEO), gave an overview of CABI.

CABI was established in 1910 and currently has 45 Member Countries. We work globally and have staff based in offices in 16 countries. Dr Nicholls is delighted to be in charge at a time when CABI is going through an exciting change. He briefly described our three strategic business units: Publishing, Bioservices and International Development. Dr Nicholls then talked about the recent re-structuring. The 'right sizing' of CABI's operations has helped reduce our debts and achieve financial stability. In 2006, the total value of our projects was £7.3m, £4.9m of which came from donors such as CFC, EU, ADB, UNEP, FAO, DFID, ACIAR and SDC with the balance from local, regional and commercial sources. In the global distribution of our projects, Africa has the most, with projects worth £2.5m. The Asia-Pacific region follows with projects worth £1.9m.

In fulfilling our mission, we respond to market demand and work cost efficiently to remain financially self-sustaining while delivering benefits to our Member Countries through not-for-profit development projects. We are also openly accountable to our Member Countries.

Dr Nicholls then moved on to explain CABI's Development Fund (CDF) and how it operates. The total value of the CDF is £1.0m at present. It is supported by UK, Switzerland, and Australia. The CDF enables us to initiate programmes that address key global issues in our areas of expertise, add value to existing regional and national initiatives, respond rapidly to emergency situations, build capacity and support research for agricultural sustainability.

Following this Dr Nicholls focused on our governance. CABI's Review Conference, which meets every 3-5 years, determines our general policies and strategies, and reviews and endorses our work programmes. Between Conferences, authority is delegated to Executive Council (Ex-Co) which meets twice a year and to a Governing Board that meets three times a year. The Governing Board guides the management of operational and strategic issues.

This regional consultation is an essential part of forward planning to ensure we stay relevant to our Member Countries.

## appendix 2: where we are: commodities, invasive species, knowledge for development

CABI, International Development presented the focus of our three themes.



### Commodities

We work mainly with coffee, cacao, oil palm, cotton and high value horticultural crops. Globally the demand and prices fluctuate for commodities; the lack of market access, stringent food safety requirements and other concerns such as climate change, and new focus on biofuels all have impact on smallholder commodity producers. Regionally, commodities have a major share of global production and consumption. We are consumer driven and our efforts are affected by increasing production costs and declining productivity.

CABI has a long-established reputation in promoting environmentally safe commodity production. We are able to provide objective advice and our uniqueness is our ability to combine skills in information, research and capacity building and in interfacing research and development agendas. We have over 20 specialised professionals dedicated to Commodities across our network of regional centres; we can respond promptly with tailored and cost-effective measures engaging people-centred approach.

Some examples of projects include: enhancing quality and food safety – Vietnam; improving sustainable production – Pakistan and China; promoting sustainability – Indonesia and Malaysia, maintaining productivity - India and PNG. Commodity crops are crucial to the economies of CABI Member Countries in the region and to producer livelihoods within those countries. CABI works effectively with national partners in addressing issues of market access; enhancing sustainable production; and manage new and / or persistent production constraints. Increasingly we are faced with fresh challenges through climate change and its impact on commodity producers and new opportunities like biofuels.

Recently UNEP awarded CABI the *2007 Partners Award* for our work in phasing out the use of Methyl Bromide, which has been commonly used in commodity production/trade.

### Invasive Species

Invasive Species include plants, animals, and micro-organisms that are not native to specific ecosystems and whose introduction threatens biodiversity, food security, health and economic development. Invasive Species are a major cause of loss of biodiversity and agricultural productivity. Africa loses up to 50% of its crops to pests and the situation in the Asia-Pacific region is also significant. Risks of Invasive Species are intensified with increased trade, travel, transportation and tourism. Complying with the requirements of the World Trade Organisation Sanitary and Phytosanitary Agreement can be very expensive, but is necessary if trade is to drive development.

The challenge is balancing the needs of trade and development with the needs of preserving the environment. Invasive Species have an enormous economic impact on agriculture and environment but this is often neglected as a development concern. CABI plays a key role in providing leadership in policy and strategy globally. We are a founding member of the Global Invasive Species Programme, and we work with the International Plant Protection Convention providing information and technical assistance to underpin strategy.

Some recent examples of our work include: Biological control in India for *Mikania micrantha* (mile a minute weed); Pest management through prevention and emergency response in Papua New Guinea (partnering ACIAR) against the cocoa pod borer, and managing an important coffee pest in the Papua province of Indonesia and preventing its invasion of Papua New Guinea.



### Knowledge for Development (KFD)

Knowledge plays an important role in development, sustaining all aspects of life. CABI is a recognised leader in this domain. We have a leading agricultural scientific database as the basis from which KFD builds and has global reach.

Knowledge is about agricultural practices, technologies and innovations. It is an essential element in all systems from the poorest rural areas through to researchers and national policy makers. The current global and regional context needs improved and faster decision-making processes to address a rapidly changing environment. Modern technologies and tools, such as the Internet, virtual learning and mobile phones enable improved communication, dissemination, access to information and ultimately knowledge sharing. Increasingly, the digital divide is becoming the knowledge divide.

CABI's historic strength is in underpinning skills and expertise in developing and managing global programmes like the Global Plant Clinic and Compendium development. We also publish research, build capacity through training and work extensively through networks of partners in international research.

Our key strength lies in our approach to managing information electronically. Our success is evident in projects. For example, we have built, maintain and host the database for DFID research; e-governance is about transparency and the database helps make information available. Other examples include, *Improving knowledge in good agricultural practice using Farmer Field Schools in Pakistan*; and *Improving techniques in farmer saved seed systems in Bangladesh*.

We make our information resources accessible free of charge to users in developing countries, through our participation in international information networks such as Access to Global Online Research in Agriculture (AGORA) and The Essential Electronic Agricultural Library (TEEAL)

## Appendix 3: Trade development and markets

| (Good agricultural practices)   |   |   |  |  |
|---|---|---|--|--|
| Scope   | Steps   | Players (CABI, LOs or Member Country representatives and Institutions)  | Partnerships & donors  |  |
| <ul style="list-style-type: none"> <li>• Information access, market intelligence</li> <li>• Standards: SPS, global/regional GAP, industry codes, importing country-specific requirements</li> <li>• Plant health and quarantine systems</li> <li>• Surveillance and early warning</li> <li>• Recognition of value-addition</li> </ul> | <ul style="list-style-type: none"> <li>• Information gathering and needs assessment</li> <li>• Concept/programme development and write-up</li> <li>• Inception/planning workshops</li> <li>• Fundraising jointly with LOs/Member Countries</li> <li>• Promotion of awareness with relevant regional funding mechanisms</li> <li>• Linkages</li> <li>• Engagement with private sector</li> </ul> | <ul style="list-style-type: none"> <li>• CABI coordination by Global and/or Regional Directors</li> <li>• LOs, Member Country representatives and CABI responsible for most of the planning, organization and implementation</li> <li>• National Ministries: Trade, Finance, Agriculture, Environment etc.</li> </ul> | <ul style="list-style-type: none"> <li>• Global and regional bodies</li> <li>• Intergovernmental organizations</li> <li>• Global organizations</li> <li>• Trade blocs</li> <li>• Sub-regional research organizations</li> <li>• Major commodity bodies</li> <li>• Private sector</li> <li>• SPS focal points etc.</li> </ul> |  |



## Appendix 4: Institutional capacity strengthening and knowledge management

| (Making research more effective in contributing to intended outcomes - ensuring the generation and application of knowledge and technology) |   |  |  |  |
|---|---|--|--|--|
| Scope   | Steps   | Players (CABI, LOs or Member Country representatives and Institutions)   | Partnerships & donors  |  |
| <ul style="list-style-type: none"> <li>Create an innovation platform, a framework to bring actors together to develop ownership</li> </ul>  | <ul style="list-style-type: none"> <li>Institutional analysis, needs assessment, impact assessment</li> <li>Extension planning</li> <li>Skills in developing partnership</li> <li>Skills to put research into use</li> <li>Ways of doing things within an organization (management, incentives etc.)</li> </ul>   | <ul style="list-style-type: none"> <li>Regional players</li> <li>SARC</li> <li>SAIC</li> <li>ASEAN</li> <li>APARIS</li> <li>AGRIS etc.</li> <li>National players</li> <li>NARS</li> <li>Universities etc.</li> </ul> | <ul style="list-style-type: none"> <li>ADB</li> <li>DFID</li> <li>ACIAR</li> <li>APEC</li> <li>IFAD</li> <li>IDB</li> <li>JICA</li> <li>IDRC etc.</li> </ul> |  |
| <ul style="list-style-type: none"> <li>Conservation, management and dissemination of institutional knowledge</li> </ul>                     | <ul style="list-style-type: none"> <li>Needs assessment (identify user requirements)</li> <li>Development of information repository</li> <li>ICT infrastructure (assuming that this is already in place)</li> <li>Dissemination, communication, utilization of repository</li> <li>Develop mechanisms to use the database content for different end-users (policy-makers, farmers, intermediaries, media)</li> <li>Build capacity in information management and transformation</li> </ul> |  |  |  |
| <ul style="list-style-type: none"> <li>Strengthening organisational/institutional capacity for more effective research into use</li> </ul>  | <ul style="list-style-type: none"> <li>Institutional analysis, needs assessment</li> <li>Training and human capacity development</li> <li>Infrastructure (labs, equipment, documentation)</li> </ul>  |  |  |  |
| <ul style="list-style-type: none"> <li>Strengthening capacity in post-conflict and post-disaster countries</li> </ul>                       | <ul style="list-style-type: none"> <li>Infrastructure and technical back stopping</li> <li>Training, research, and extension</li> </ul>   |  |  |  |

## Appendix 5: Biofuels and Climate Change (1)

| (Biofuels - Integrating energy, ecosystems and livelihoods)  |  |   |   |
|--|--|---|---|
| Scope  | Steps  | Players (CABI, LOs or Member Country representatives and Institutions)  | Partnerships & donors   |
| <ul style="list-style-type: none"> <li>• Energy crops versus food security</li> <li>• Impacts of fuel crops on the environment</li> <li>• Value and sustainability of fuel crops</li> <li>• Identify and prevent IAS of biofuel crops and prevent biofuel crops becoming potential IAS</li> </ul>              | <ul style="list-style-type: none"> <li>• Pre-concept for an 'umbrella' programme on energy, ecosystems and livelihoods</li> <li>• Principles for variety analysis</li> <li>• GMO/biofuel overlaps – is GMO more acceptable?</li> <li>• Early 2008 sub-regional consultations on issues around each theme; CABI/SRO, NARI/LOs, (CABI Development Fund)</li> <li>• Potential land use conflicts</li> <li>• Framework for best practices and analysis</li> <li>• Suitability of crops for biofuel/safe variety of biofuel crop</li> <li>• Information database of major crops</li> <li>• Good practices guidelines in crop movement and crop management</li> </ul>  | <ul style="list-style-type: none"> <li>• CABI and LOs</li> <li>• Ministries: Energy, Agriculture and Environment, Trade and Industry, Science and Technology</li> <li>• Invasive Species Council/ GISP</li> <li>• CABI and wider partners</li> <li>• NARS</li> <li>• IUCN etc.</li> </ul> | <ul style="list-style-type: none"> <li>• IUCN</li> <li>• multinationals: Shell, BP, D1 Oils</li> <li>• State oil companies</li> <li>• Local energy supply companies etc.</li> </ul> |
| <ul style="list-style-type: none"> <li>• Inform policy around biofuel options</li> <li>• Crop by-products like bagasse etc.</li> <li>• High dry matter crop development – cassava</li> <li>• Alternative biofuel crops for semi-arid zones – Jatropha</li> <li>• Sweet potato, oil palm, sugar cane</li> </ul> | <p>Preparation of situation analysis:</p> <ul style="list-style-type: none"> <li>• National information, environmental information, published and unpublished information</li> <li>• Feasibility assessment and sustainability of technologies</li> <li>• Identify, develop and monitor the potential impact of expanded bioenergy development for agriculture, environment, health and trade</li> <li>• Promote international research on social, scientific, technological, economic policies and environmental issues guiding bioenergy development</li> <li>• Establish internationally agreed standards for production, conversion, use and trade of bioenergy systems to protect both society and the environment</li> <li>• Develop sustainability criteria and analytical (indicator) tools for projects and programmes</li> <li>• Promote the development and coordination of information systems and international transfer of technologies on bioenergy</li> <li>• Link with knowledge from private sector on refining, storing and transporting oils suitable for smallholder producers</li> </ul> |   |   |

## Biofuels and Climate Change (2)

| (Adaptation to Climate Change)  |  |  |   |
|---|--|--|---|
| Scope   | Steps  | Players (CABI, LOs or Member Country representatives and Institutions)   | Partnerships & donors   |
| <ul style="list-style-type: none"> <li>Nexus between climate change, land degradation, and poverty</li> <li>Knowledge management around issues</li> <li>Challenges for policy and institutional change at various levels</li> <li>Challenge for Agricultural research and extension</li> <li>Desertification and desert margin initiatives</li> <li>Change in seed planting times</li> <li>Invasive Species threat</li> <li>Water resource: domestic irrigation etc.</li> <li>Coverage of other natural resources beyond water</li> </ul> | <ul style="list-style-type: none"> <li>Situation analyses</li> <li>Decision Support Systems</li> <li>Developing and delivering early warning systems</li> <li>Decision-making tool to help take advance steps</li> <li>Connectivity between climate change and biofuels</li> <li>Adaptation strategies – risk management and planning</li> <li>Learning networks: combining indigenous local knowledge with external knowledge for sustainable management of Climate Change</li> <li>Water Harvesting</li> <li>Adoption of IPM in the scenario of climate change – response strategies for farmers</li> <li>Knowledge/technical transfer of agricultural systems, pest management, etc. from one region to another based on identification of climate change conditions</li> </ul> | <ul style="list-style-type: none"> <li>CABI and LOs</li> <li>Regional</li> <li>National</li> <li>Local etc.</li> </ul> | <ul style="list-style-type: none"> <li>CG centres</li> <li>ICRISAT</li> <li>IWMI</li> <li>CEH</li> <li>IIED</li> <li>CSIRO</li> <li>Sociology experts etc.</li> </ul> |

Adapting to the effect of climate change has similar steps/partners to those outlined for the biofuels theme. CABI's main role will be that of Knowledge Coordination. LOs, Member Country representatives would be responsible for taking forward the Pre-Concept stage; and, through consultation, to get the buy-in of all key stakeholders; NARS would be responsible for getting government approval

## Appendix 6: Microbial collections

| (Use and management)  |   |   |   |  |
|---|---|---|---|--|
| Scope   | Steps   | Players (CABI, LOs or Member Country representatives and Institutions)  | Partnerships & donors   |  |
| <ul style="list-style-type: none"> <li>Networking and promoting information sharing and management with respect to regional and national collections</li> </ul> | <ul style="list-style-type: none"> <li>Identify policy effects on microbial transfer across borders and identify mechanisms for collaborative effort to use the microbes in view of new regulatory constraints</li> <li>New benefit-sharing mechanisms to enable free identification of microbial samples from Member Countries</li> <li>Centralised Secretariat cataloguing best practices for microbial collection</li> </ul>               | <ul style="list-style-type: none"> <li>Biodiversity and regulatory authorities, CBD</li> <li>National Research Institutes, in particular China</li> <li>Plant Protection General Service of Ministry of Agriculture (China) etc.</li> </ul> | <ul style="list-style-type: none"> <li>Bill and Melinda Gates Foundation</li> <li>Wellcome Trust UK</li> <li>pharmaceutical companies</li> <li>agro-chemical companies</li> <li>industrial enzyme companies</li> <li>food companies etc.</li> </ul> |  |
| <ul style="list-style-type: none"> <li>Commercialisation of collections</li> </ul>  | <ul style="list-style-type: none"> <li>CABI as broker of commercialisation of microbes and revenue-sharing of the profits</li> <li>Screen for bioactivity, for IPM, etc</li> </ul>  |   |   |  |
| <ul style="list-style-type: none"> <li>Training</li> </ul>  | <ul style="list-style-type: none"> <li>Curation of microbial cultures               <ul style="list-style-type: none"> <li>mechanisms for information and sample sharing, technology for sample maintenance</li> </ul> </li> <li>Taxonomic expertise – capacity development to enable initial identification by Member Countries followed by technical support from CABI for confirmation</li> <li>Advice on setting up collection</li> </ul> |   |   |  |
| <ul style="list-style-type: none"> <li>Identification of samples</li> </ul>   | <ul style="list-style-type: none"> <li>Provision of free service for Member Countries in return for levy on membership fees</li> </ul>  |   |   |  |



## Appendix 7: ICT and enterprise including animal and aqua culture sectors

| (Rural knowledge system)  |  |   |   |  |
|---|--|---|---|--|
| Scope   | Steps  | Players (CABI, LOs or Member Country representatives and Institutions)  | Partnerships & donors   |  |
| <ul style="list-style-type: none"> <li>Create Rural Resource Centres (RRCs)</li> <li>Looking at extension systems for new and other technologies</li> </ul> | <ul style="list-style-type: none"> <li>Needs and capacity assessment</li> <li>Identify long term partners</li> <li>Business plans</li> <li>Management of training centres</li> </ul>   | <ul style="list-style-type: none"> <li>Research Institutions</li> <li>NGOs</li> <li>Extension Departments</li> <li>Provincial Departments</li> <li>Universities</li> <li>CSOs</li> <li>CG centres</li> <li>AVRDC</li> <li>International organisations etc.</li> </ul> | <ul style="list-style-type: none"> <li>DFID</li> <li>SDC</li> <li>National Governments</li> <li>EU</li> <li>ADB</li> <li>IDB</li> <li>IFAD</li> <li>Bi-lateral funding mechanisms etc.</li> </ul> |  |
| <ul style="list-style-type: none"> <li>Content development for RRCs</li> </ul>  | <ul style="list-style-type: none"> <li>Baseline survey of contents and appropriateness of content</li> <li>Demand-driven and market-oriented content</li> <li>Identifying needs through participation, testing, adaptation and transformation</li> </ul> |   |   |  |
| <ul style="list-style-type: none"> <li>Training and capacity building</li> </ul>  | <ul style="list-style-type: none"> <li>Policy, farmers, information managers, extension, NGOs, commercial, private, certifiers</li> </ul>  |   |   |  |
| <ul style="list-style-type: none"> <li>Enterprise development</li> </ul>  | <ul style="list-style-type: none"> <li>Innovation systems</li> <li>Identify added value potential opportunities</li> </ul>   |   |   |  |

## Appendix 8: Integrated Pest Management/Invasive Species

| (In relation to high value crops)   |  |   |   |  |
|---|--|---|---|--|
| Scope   | Steps  | Players (CABI, LOs or Member Country representatives and Institutions)  | Partnerships & donors   |  |
| <ul style="list-style-type: none"> <li>• Identification of target crops (cotton, potatoes, vegetables, fruit)</li> <li>• Identification of potential Invasive Species pests</li> <li>• Risk reduction alternatives (toolkits, rational pesticide use, pest management systems, biosecurity planning)</li> <li>• Gathering available regional information and developing tailor-made packages</li> </ul> | <ul style="list-style-type: none"> <li>• Information gathering (including industry biosecurity plans) and needs assessment</li> <li>• Secure commitment for involvement of in-country experts and provision of local information</li> <li>• Concept/programme development and write-up</li> <li>• Inception/planning workshops – decisions on national and regional approaches (risk analysis, biosecurity planning)</li> <li>• Fundraising jointly with LOs</li> <li>• Develop farmer-training packages (including Global Plant Clinic approaches and farmer field schools)</li> <li>• Packaging available information into ready-to-use IPM knowledge tools</li> <li>• Validation and impact assessment</li> </ul> | <ul style="list-style-type: none"> <li>• CABI coordination by Global and/or Regional Directors</li> <li>• LOs and CABI responsible for most of the planning, organization and implementation</li> <li>• National Ministries:</li> <li>• Trade</li> <li>• Finance for co-financing</li> <li>• Agriculture- information and co-implementation</li> <li>• Environment - information and co-implementation</li> <li>• Science and Technology – co-financing</li> <li>• Extension – co-implementation</li> <li>• NGOs</li> <li>• FAO etc.</li> </ul> | <ul style="list-style-type: none"> <li>• Global and regional bodies</li> <li>• Intergovernmental organizations</li> <li>• Trade blocs</li> <li>• Sub-regional research organizations</li> <li>• Major commodity bodies</li> <li>• Private industry</li> <li>• SPS focal points</li> <li>• AVRDC</li> <li>• NGOs etc.</li> </ul> |  |



## contact CABI

### europe

**CABI** Head Office  
Nosworthy Way, Wallingford, Oxfordshire, OX10 8DE, UK  
T: +44 (0) 1491 832111, E: [corporate@cabi.org](mailto:corporate@cabi.org)

**CABI** Europe - UK (Egham)  
Bakeham Lane, Egham, Surrey, TW20 9TY, UK  
T: +44 (0) 1491 829080

**CABI** Europe - UK (Ascot)  
Silwood Park, Buckhurst Road, Ascot, Berks, SL5 7TA, UK  
T: +44 (0) 1491 829129

**CABI** Europe - Switzerland  
Rue des Grillons 1, CH-2800 Delémont, Switzerland  
T: +41 (0) 32 4214870

### asia

**CABI** South Asia  
Opposite 1-A, Data Gunj Baksh Road, Satellite Town, PO Box 8, Rawalpindi-Pakistan  
T: +92 (0) 51 9290132

**CABI** Southeast and East Asia  
PO Box 210, 43400 UPM Serdang, Selangor, Malaysia  
T: +60 (0) 3 89432921

**CABI** South Asia - India  
2nd Floor, CG Block, NASC Complex, DP Shastri Marg, Opp. Todapur Village, PUSA,  
New Delhi - 110012, India  
T: +91 (0) 11 25841906

**CABI** Southeast and East Asia - China  
C/o CAAS-CABI Project Office  
C/o Internal Post Box 56, Chinese Academy of Agricultural Sciences,  
12 Zhongguancun Nandajie, Beijing 100081, China  
T: +86 (0) 10 62112118

### africa

**CABI** Africa  
ICRAF Complex, United Nations Avenue, Gigiri, PO Box 633-00621, Nairobi, Kenya  
T: +254 (0) 20 7224450/62

### americas

**CABI** Caribbean & Latin America  
Gordon Street, Curepe, Trinidad and Tobago  
T: +1 868 6457628

**CABI** North America  
875 Massachusetts Avenue, 7th Floor, Cambridge, MA 02139, USA  
T: +1 617 3954051

