



# Capacity Building and Enabling Delivery



# Content



progress on ongoing activities

issues for discussion: how to do better next

outlook

- Training Program (TP)
- Policy
- Enabling Delivery (ED)

# Subprogramme 5 is about...



- ensuring that the GCP research investment through the four technical subprogrammes has the desired impact

gene banks – genomics – breeding – poor farmers

- a series of mechanisms by which GCP products will reach breeding programs and farmers

# SP5 themes

- increasing the **capacity** of NARS scientists to participate in the GCP
- developing and ensuring the adoption of **policies** and protocols to allow proper access and benefit sharing from the derivatives of the program
- articulating and implementing the GCP product **delivery** strategy

# Training Program



- Capacity building activities in competitive projects
- **Fellowships**
- Travel Grants
- Commissioned activities
  - Help Desk
  - **Courses**
  - **Learning materials**
  - **SP5-SPx joint activities**
  - Other

# Capacity building in competitive projects

- Hands-on research
- Post-doctoral positions
- Workshops
- ...



# GCP Fellowships

- 2 fellowships per year per subprogram
- 3-12 month duration
- embedded in an on-going GCP project
- hosted by a Consortium member or participating institution
- research topic of strategic importance for the country of origin
- selection panel: GCP Management Team
  
- in addition,
  - Pioneer-GCP fellowship for a PhD (1/year)
    - selection panel: GCP-D, SP3L, SP5L and Pioneer Training Officer



# GCP Fellowships 2005



- two calls, 23 applications
- 8 fellowships (2 SP1, 3 SP2, 2 SP3 and 1 SP4)
- Countries of origin:  
2 India, 1 Indonesia, 1 Kenya, 1 Mexico, 1 Nigeria, 1 Pakistan  
and 1 Senegal
- Hosts: Australian Center for Plant Functional Genomics  
(ACPFPG), CIAT, CIRAD, Cornell University, IPGRI-INIBAP,  
NIAS
- Pioneer-GCP fellowship
  - 12 applications
  - Winner
    - Country of origin: India
    - Host: University of Georgia

# Travel Grants



- sixteen travel grants
- developing country nationals
- from research centers involved in GCP-related research
- objectives
  - to attend a relevant conference or workshop or the GCP ARM
  - to promote or strengthen collaboration with a Consortium institution
- selected monthly by the SP5L

# Travel Grants 2005



- 10 regular travel grants
- Countries of origin: Ethiopia, Georgia, India, Iran, Kenya, Rwanda, Uganda and Vietnam
- Hosts: CIP, CIRAD, Cornell University, ICARDA, ICRISAT, IRRI, NIAS (8)
- Conference: 7<sup>th</sup> International Wheat Conference (2)
  
- 16 travel grants to attend Interdrought II
- Countries of origin: Bangladesh, Brazil, China, Egypt, India, Iran, Mexico, Pakistan, Russia, Senegal, Tunisia, Turkey, Uzbekistan
  
- Others to attend the GCP ARM

# Commissioned GCP Training Program activities



# Help Desk



- an online resource center with
  - personal interactive support
  - centralized research information for scientists worldwide
- role,
  - troubleshooting and linking to a real (local) person for help
- content,
  - online bulletin board, discussion room for feedback, e-mail subscription for updates, FAQs, protocols, lists of suppliers, lists of known genes per crop, educational resources, virtual library, online presentations, virtual lab,...
- commissioned to Cornell University

# Courses

- integrative training courses (2-3 weeks)
- research/practice-based
- one per year per region (Africa, Asia, Latin America)
- content
  - genetic diversity and molecular breeding
  - comparative genomics and bioinformatics
  - phenotyping
  - LD / association mapping
  - policy
  - others (project proposal development, ...)
- links with IFS

# Courses in 2005 (1)

- Africa – South Africa, University of Pretoria
- Asia – Thailand, Kasetsart University
- Latin America – Chile, INIA-La Platina
  
- content
  - genetic diversity and molecular breeding
  
- emphasis in linking germplasm scientists (gene bank specialists, curators, breeders) with molecular geneticists
  
- a number of proposals ready for IFS



# Courses in 2005 (2)



- Project proposal development
  - Africa (Benin)
    - 130 applicants, 21 selected, representing 18 institutions and 10 countries
  - Asia (Malaysia)
    - 70 applicants, 23 selected representing 20 institutions and 12 countries
  - Latin America (Quito)
    - 38 applicants, 24 selected, representing 11 countries and 17 institutions

# Development of training materials

SP1: Genetic diversity analysis (CIRAD)

SP2: Genomics and comparative genomics (CU)

SP3: Molecular breeding (WUR)

SP4: Bioinformatics (IRRI)

SP5: Policy (WUR)



# Joint SP5-SP1 CB activities



“Molecular markers for allele mining”

- A workshop based on SP1 year 1 genotyping activities
- Participants:
  - the System-Wide Genetic Resources Programme (SGRP, 5),
  - the crops included in the SP1 genotyping activities of year 1 (10),
  - those involved in the SP1 commissioned project on association genetics (5),
  - a number of experts in germplasm characterization (3),
  - NARS from developed countries (4) and
  - NARS from developing countries (8, plus 6 more Indian scientists)

# Joint SP5-SP1 CB activities



Development of microsatellite kits

(=reference microsatellite marker subsets to analyze diversity of germplasm and allow comparability across institutions and germplasm collections)

10 scientists from 9 countries started work at a Consortium institution to complete this activity in barley, cassava, chickpea, common bean, maize, Musa, potato, rice, sorghum and wheat

# Joint SP3-SP5 CB activities (1)



- A course at the Biosciences Center for East and Central Africa (BECA, Nairobi) organized by IITA  
Thirty-five (35) applications were received and 21 participants selected representing 9 countries (Uganda, Tanzania, Zimbabwe, Ethiopia, Ghana, Sudan, Malawi, Rwanda, Kenya) and 18 institutions

# Joint SP3-SP5 CB activities (2)



A project proposal “Tapping Crop Biodiversity for the Resource Poor in East and Central Africa”, jointly funded by the GCP and the Rockefeller Foundation

- to enable national researchers to apply genomics tools for characterization of sorghum, cassava and bean in the region,
- to empower a wider spectrum of stakeholders to link into regional and international research activities,
- to provide an operational framework for trainees from the GCP-BECA Molecular Breeding Training Program to continue their training,
- to help establishing a network of molecular breeders using the BECA facility

# Joint SP3-SP5 CB activities (3)



“Design and analysis of multi-environment trials: conventional and QTL-based methods”

Zaragoza (Spain), 12-23 September 2005

- Workshop within a competitive proposal
- 6 extra participants funded by the GCP

# Monitoring and Evaluation



- contacts with PIs
- contacts with NARS participants/beneficiaries
- feedback forms
  - end of activities,
  - after activities at 6-month intervals
- re-assessment of activities

# Collaborators



- Pioneer and Syngenta
- Kirkhouse Foundation and the International Foundation for Science
- Other (course and workshop host institutions)
  - CIHEAM-IAMZ, Zaragoza, Spain
  - Swaminathan Foundation, Chennai, India
  - University of Pretoria and Fabi, Pretoria, SA
  - BIOTEC and Kasetsart University, Bangkok and Nathom Pakom, Thailand
  - INIA, La Platina, Chile
  - WARDA-IPGRI - Benin; IPGRI-APO - Malaysia; INIAP-DENAREF - Quito

# Training Program plans in 2006



- Commissioned
- Competitive

# Issues for discussion (1)



- Fellowship and Travel Grants
  - ONLY linked to ongoing projects (competitive? commissioned?)
    - Change in the application procedures: involvement of the PI
  - Open to NARS involved in the projects? Open to all?
  - Number of calls
- Training Program
  - A trademark of the GCP? Should we continue doing it? Is the expected impact meaningful?
  - How to better select participants? Only those NARS embedded in ongoing projects?
  - Content: SP1-SP2-SP3
  - Online courses: bioinformatics?
  - Choice of resource people: the same or changing
  - Linkages with the IFS?

# Issues for discussion (2)

- Training materials
    - more topics?
    - translation to ...?
  - Joint SP5-SPx activities
    - ...to discuss in the ED session
  - The use of Regional Research Hubs
    - regional differences
    - ... to discuss in the cross-session this afternoon
- More people able to work on it at home institutions

# Policy activities in 2005



- Publication of reports produced for questions of immediate importance to the GCP
  - Overview of the international policy arena relevant to GCP,
  - Humanitarian licenses,
  - Liability and stewardship,
  - Other IP-mechanisms,
  - Benefit sharing and
  - Access legislation
- The organization of a policy seminar during a symposium organized by CAAS, “Genomics-based Plant Germplasm Resources Research”.

# Policy activities in 2005



- the preparation of training materials and course curriculum for NARS (Wageningen University),
- a distance learning module for scientists on genetic resources policies and their implications for freedom to operate (Wageningen University),
- an on-line resource and helpdesk on intellectual property and access and benefit sharing for scientists in the GCP and its partners and stakeholders (CAS-IPGRI), and
- the design of a GCP inventory system for reporting product distribution (CAS-IPGRI)

# Policy plans for 2006

- Commissioned



# Issues for discussion

- Future activities



# Enabling Delivery



- The GCP is an opportunity to take the genomics revolution to resource-poor farmers
- The GCP wants to ensure
  - that our impact is measured not only by a number of products
  - that capacity is there to reach beneficiaries and users

# Implementing delivery plans



getting the product to the users

- Implies explicit linkages between product developer and intended recipient/user
  - requirements to be fulfilled in the project proposals
  - follow-up and evaluation procedures in place

# Involvement of SP5

- assistance to the scientists for the identification of adequate delivery plans
- assistance to the scientists for the identification of adequate partnerships
- oversight of product delivery
- identification of capacity building needs
- development of guidelines, based on lessons learned from successful cases that can lead to replication



# Delivery plans for 2006

- Commissioned
- Competitive



# Issues for discussion



- Use of funds for competitive projects
  - planning workshop
  - identification of CB needs + implementation
    - technical workshops organized by involved scientists?
    - exchange of visits among involved scientists?
    - training of current technicians, students and postdocs?
    - selections of recipients of training from advanced institutions?
    - workshops routinely offered?
- Definition of impact/socio-economic studies as competitive projects