



INTERNATIONAL
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SCIENCE



IFS Biennial Report 2005 - 2006

In 2005 and 2006, IFS was supported by



Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles (CORAF/WECARD)

Consejo Nacional de Ciencia y Tecnología (CONACYT), Mexico

Department for International Development (DFID), United Kingdom

Deutsche Forschungsgemeinschaft (DFG), Germany

Flemish Interuniversity Council (VLIR), Belgium

Foundation for Strategic Environment Research (MISTRA), Sweden

Institut de Recherche pour le Développement (IRD), France

Inter-Islamic Network on Water Resources Development and Management (INWRDAM), Jordan

Ministère des Affaires Etrangères (MAE), France

Ministry of Foreign Affairs, The Netherlands

The Norwegian Agency for Development Cooperation (NORAD), Norway

Organisation for the Prohibition of Chemical Weapons (OPCW)

Organisation of Islamic Conference Standing Committee on Scientific and

Technological Cooperation (COMSTECH)

Swedish International Development Cooperation Agency (Sida), Sweden


Swiss National Science Foundation (SNSF), Switzerland

Syngenta Foundation for Sustainable Agriculture (SFSA), Switzerland

The United Nations University (UNU)

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Message from the Chair and the Director



Photo: Eren Zink

Pierre Roger

The IFS Biennial Report covers the years 2005 and 2006. They were important years for IFS as we explored and formulated a new strategy, which is consolidated in the IFS Five Year Programme 2006-2010. Featured in the Report are central aspects related to the Programme and a review of the consultations which led up to it. These consultations included regional meetings with IFS stakeholders on three continents: Africa, Asia and Latin America. IFS also consulted extensively with its Donors.

Despite differences in regional challenges and priorities, there was consensus about the future role of IFS: namely, that we should continue the competitive research grants scheme, focus on young scientists in low income countries with vulnerable scientific infrastructures and add value to the grant by providing capacity strengthening support to grantees and potential applicants. We intend to emphasise this latter kind of support in the form of workshops, courses and mentorship. In 2005 and 2006, the number of workshops held for grantees and applicants increased substantially as compared to earlier years. It was a quantum leap and required a major effort from the Secretariat and the Partner Organisations with which we collaborated.

We interpret the mission of IFS as not only providing grant money per se, but also as ensuring research success by our grantees. The grant plus the capacity enhancing support will be instrumental in transforming the grantees from academic degree holders to competent scientists capable of taking key positions in their home country and

becoming part of the international scientific community.

IFS alumni grantees in middle income countries are emerging as an impressive intellectual resource. They will increasingly take on the role of mentor for IFS grantees. This was highlighted at our regional consultations. A concrete opportunity emerged at the Latin American Regional Assembly when the Argentinean research council CONICET expressed its preparedness to mobilise its members as mentors to IFS grantees in the less developed Latin America countries. We expect to engage in similar collaborations with more countries during the implementation of the Five Year Programme.

In order to share with you the high quality of research that IFS grantees are conducting, we have included profiles of three grantees. We urge you to read about their IFS-supported research and hear their stories, their thoughts and the impact IFS has had on their careers under the difficult conditions they face.



Photo: Brian Porter

Michael Ståhl

Pierre Roger
Chairman of the Board of Trustees

Michael Ståhl
Director

IFS Research Grants & Workshops



The core component of IFS support is the competitive research grants scheme that focuses on individuals—promising young scientists—who conduct research into the sustainable utilisation, management and/or conservation of biological and water resources.

The administration of the research grants scheme is done at the IFS Secretariat and includes receipt and registration of applications, pre-screening, external review, meetings of Scientific Advisory Committees, prioritisation of recommended applications, decisions on funding, feedback to all applicants, signing of agreements with grantees and support during the research period.

Applications and Grants in 2005-2006

During 2005, 1,500 applications for grants were received. After registration and pre-screening at the Secretariat, 1,000 were accepted for the next stage of evaluation by IFS Scientific Advisers and then assessed at the meetings of the eight IFS Scientific Advisory Committees. Of these, 240 new grants were approved for financing. In total, 70% of the new grants were awarded to young researchers in low income countries with vulnerable scientific infrastructures (47% were awarded to scientists in Sub-Saharan Africa). Women scientists constituted 31% of new grantees.

During 2006, 1,300 applications for grants were received. After registration and pre-screening, a total of 990 were accepted for the next stage of evaluation by IFS Scientific Advisers. Of these, 263 grants were approved for funding. The distribution between low and middle income countries remained 70% and 30% respectively; new grantees in Sub-Saharan Africa constituted 40% of new grantees while the proportion of women scientists was 30%.

The distribution of grants during the past five years is illustrated in the graphs below.

The number of new grants financed over the period 2005-2006 is clearly increasing compared with earlier years. This is due both to an increased visibility of IFS and to an increased level of support from Donors. The number of research applications recommended by IFS Scientific Advisers has been higher than the actual number of grants that IFS has been able to finance. However, due to the increase in level of funding, this gap is narrowing.

With regard to the gender distribution of IFS granting decisions, it is noteworthy to observe that while IFS does not apply any gender-based quota, the number of successful young women scientists among its roster of new grantees has been steady at around 30%. This is higher than the percentage of post-graduate women students at many universities in countries eligible for IFS grants.

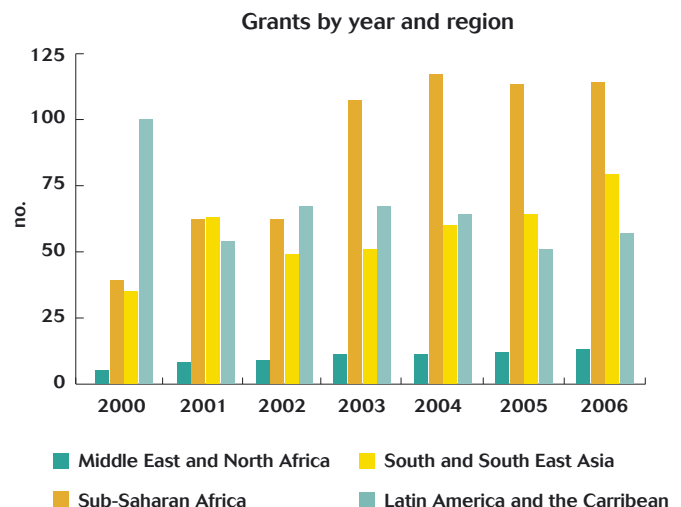


Fig. 1 Geographic distribution of IFS Grants 2000-2006

Workshops and Travel Grants in 2005-2006

As IFS concentrates its support on scientists in low income countries with vulnerable scientific infrastructures, grantees are provided with additional support in the form of workshops, courses and visits to reputable scientific institutions. Such capacity enhancing events improve their research results.

IFS has a long tradition in organising workshops for young scientists (about 150-250 participants annually in the past several years). In 2005 and 2006, the level of workshops organised or co-organised by IFS increased dramatically. In 2005, 12 workshops were arranged and

in 2006, the number doubled to 23 workshops. IFS workshops counted more than 300 participants in 2005 and more than 500 in 2006.

While the majority of the workshops held were devoted to research project conceptualisation and preparation, several thematic workshops were also held. All workshops were conducted in collaboration with national or regional Partner Organisations. The workshops are listed on pages 23-25.

Travel grants for participation in activities other than workshops were given to 28 grantees in priority countries and 7 in other eligible countries during these two years.

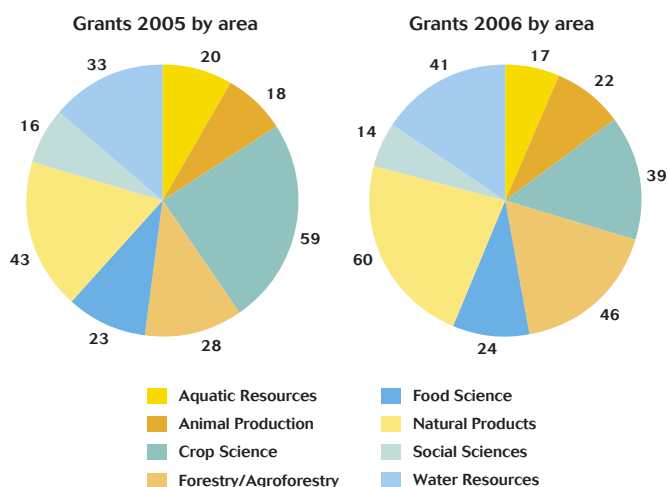


Fig. 2 Distribution of IFS Grants by research area 2005 and 2006

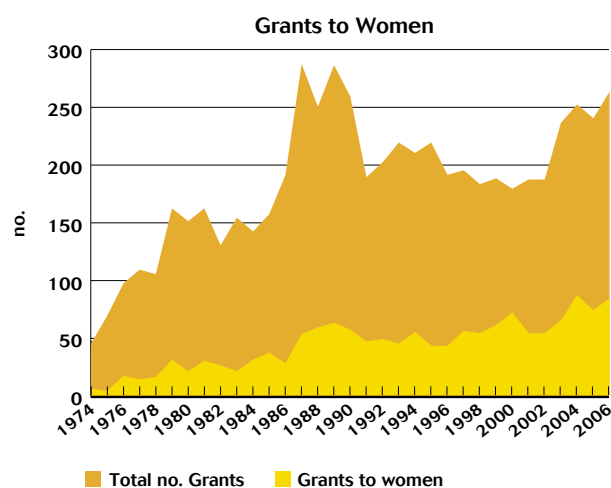


Fig. 3 Grants to women scientists

Countries which are eligible for IFS support are defined using indicators for assessment of their economic development and their scientific infrastructure.

Researchers based at institutions in the following categories of countries are, in principle, eligible to apply for IFS grants: Low Income Countries (LIC), Lower Middle Income Countries (LMIC) as well as some Upper Middle Income Countries (UMIC), namely those with a below-average GNI/Capita of that category of countries.

IFS gives priority to research applications of satisfactory scientific quality from researchers based in countries classified as LICs and LMICs. This category includes most countries in Sub-Saharan Africa, some countries in Central America and the Andean region as well as a number of countries in Asia. The rationale for this policy is that researchers based in UMICs in general have much better access to national research funding and infrastructure than their colleagues in LICs and LMICs.

IFS also takes into consideration the scientific infrastructure of countries and gives priority to countries where scientists, who are at the beginning of their research career, have difficulty in accessing research funding and research tools.

IFS aims to allocate up to 70% of its support (research grants and other capacity enhancing activities) to scientists from LICs and LMICs, while up to 30% will be allocated to researchers from UMICs.

The policy to prioritise in this way was implemented in 2003. Fig. 4 illustrates how this policy has impacted on grants given.

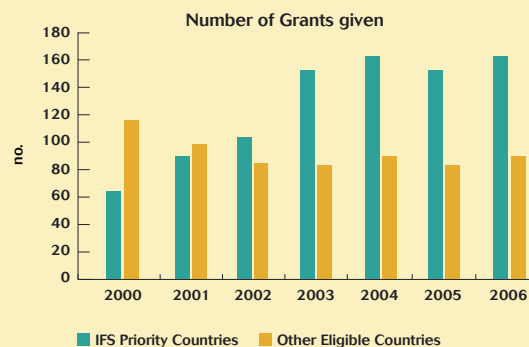


Fig. 4 Distribution of Grants given to IFS priority countries and other eligible countries

IFS Consultations in Africa, Asia and Latin America



During 2005-2006, IFS held a series of consultations with IFS stakeholders on the future course for IFS—its goals and priorities, its activities and opportunities in Africa, Asia and Latin America. These collaborations took the form of discussions at meetings and workshops held in Nairobi, Kuala Lumpur and Córdoba. The conclusions reached and recommendations made during these consultations greatly influenced the IFS Five Year Programme (2006-2010), which is summarised on pages 18-19.

In Africa

Some 50 people from 15 countries in Africa took part in an IFS workshop held in Nairobi, Kenya, in June 2005 to discuss IFS's future course in Sub-Saharan Africa. Participants included directors of national science and technology commissions, vice chancellors, directors of regional research centres, faculty deans and university professors. Also present were alumni grantees, well versed in the issues at hand; all provided valuable insights and recommendations. Discussions highlighted a central message to science communities in Africa: we are facing a generational shift and must pay more attention to the needs of an upcoming generation of scientists. It is these men and women who bear the responsibility for the future, to set and achieve a bold research agenda that can further the UN Millennium Development Goals and fulfil the ambitions of the African Union and NEPAD to put Africa on the path to sustainable development.

The role of IFS—to continue its current mission to focus its energy on supporting young scientists, in a competitive manner and with due regard to the institutional constraints they face—was endorsed. Additional “soft” support to grantees was recognised as being critical in helping young scientists achieve research success. While courses to



Dr Zerubabel Nyiira, Executive Secretary of the Uganda National Council for Science and Technology, delivered the keynote speech at the IFS workshop in Nairobi, Kenya, in June 2005.

conceptualise and develop research proposals were in high demand, IFS was urged to provide courses to help grantees improve skills in writing scientific reports as well.

In order for IFS to maintain close contact with grantees in marginalised institutions and to arrange a variety of supporting activities, IFS was advised to establish a regional presence in Africa. Care should be taken in the preparation of such a presence in order to ensure effectiveness, links to African organisations and cost-efficiency for IFS.

In Asia

A similar workshop was organised in Kuala Lumpur, Malaysia, for the Asian IFS constituency in August 2005. Some 40 IFS stakeholders were able to discuss the present and future focus of IFS and provide concrete proposals for IFS's future profile and operations in Asia. An issue of particular concern was how the scientifically advanced countries in the region can interact with, and support science develop-

ment in, scientifically less advanced neighbours and how IFS can play a constructive role in this interaction.

Some suggestions on the future focus of IFS included:

- Increased support to grantees in the form of more workshops on the conceptualisation of projects, proposal and report writing, thematic workshops, monitoring through site visits, mentoring and progress reports, especially for those in low income countries with vulnerable scientific infrastructures.
- Increased focus on projects which have high scientific quality and relevance to local development needs and pay more attention to social aspects of the projects.
- Strengthened links with IFS affiliated organisations to help develop projects and identify opportunities for joint funding.
- Support to networking (among IFS alumni) and information sharing through the IFS website.

There was much discussion on the advisability of an regional presence for IFS in Asia. Participants expressed strong and positive support for this. The next step in this initiative remains to be formulated and will need careful assessment.

In Latin America

The IFS Regional Assembly for Latin America was held in Córdoba in May 2006. It gathered together 40 partici-

pants who discussed the working conditions and funding opportunities for young scientists and made suggestions as to how IFS support can be adapted to their realities. As at the Kuala Lumpur workshop, the discussions focused on how the scientifically advanced countries in the region can interact with, and support scientific development in, their scientifically less advanced neighbours and how IFS can play a constructive role in this process.

One result of this meeting was an agreement between IFS and Argentina's National Scientific Research Council (Consejo Nacional de Investigaciones Cientificas y Técnicas - CONICET). IFS can now offer mentorship for its grantees in low income countries in Latin America. These mentorships are in connection with study visits to advanced scientific institutions in Argentina and are arranged by CONICET.

Scientific capacity enhancing

Promoting scientific research in low income countries with vulnerable scientific infrastructures, ie the IFS priority countries, is not only a matter of providing research funds but also of nurturing enabling environments. While the research landscape in these countries differs from country to country, formidable thresholds exist in all of them for young scientists struggling to get their research projects going. Lack of funds, limited encouragement from governmental



Photo: Brian Porter

IFS Grantees and former Grantees Attending the IFS Regional Assembly in Kuala Lumpur in August, 2005: 1 Dr Lina T Villacarlos, Philippines; 2 Professor Lourdes J Cruz, Philippines; 3 Dr Khieu Borin, Cambodia; 4 Dr Dayar Arbain, Indonesia; 5 Dr Peter Adeoye Sopade, Nigeria/Australia; 6 Dr Nordin Hj Lajis, Malaysia; 7 Mr Dinesh Raj Manandhar, Nepal; 8 Dr Kasem Soyong, Thailand; 9 Dr Vo Dai Hai, Vietnam; 10 Dr Krishanthi Abeywickrama, Sri Lanka; 11 Ms Bessie Ong, Malaysia; 12 Dr Eddy Tan, Malaysia; 13 Dr Lam Thi Thu Huong, Vietnam; 14 Dr Antonius Suwanto, Indonesia; 15 Dr Mau Dung Nguyen, Vietnam; 16 Professor Amaret Bhumiratana, Thailand; 17 Dr Ashwani Pareek, India



Photo: Brian Porter

Alberto Mavume, Mozambique, an IFS grantee from 2003, with his poster at the International Science Congress, held in Kuala Lumpur in August, 2005 at the same time as the IFS Regional Assembly. He was able to attend the Congress with a travel grant from IFS.

authorities, bureaucracy and a lack of understanding of innovative approaches are among the major impediments. The capacity of national universities to offer post-graduate training, funding for research projects, laboratories, access to international scientific contacts, mentoring, networking and publication outlets is often very limited.

In addition, there are the more general constraints that exist in the hierarchic world of scientific research, making it often difficult for young scientists, especially women, to become established. Intense competition for the leading positions coupled with a lack of funds limits the possibilities of young researchers to stay in research and to establish their own independent research teams. Often they are given unreasonably high teaching loads, leaving them with little time for research. Salaries are often not financially attractive, and there is rarely satisfactory



Photo: Brian Porter

At the workshop in Córdoba, Argentina, in May 2006, IFS grantees and former grantees, Scientific Advisers, Trustees, staff and representatives of partner organisations discussed many important issues.

job security. This, coupled with limited career possibilities, has resulted in an in-country brain-drain as talented young scientists are forced to turn to consultancies, private business and even farming in order to secure a livelihood.

How can IFS make a difference?

In answer to this question, a common theme was expressed by the participants at the 2005-2006 consultations. All agreed on the prominence of IFS to attract the best young graduates from M.Sc. and Ph.D. programmes and advance their scientific development through research grants and networking. IFS could, however, play an even greater role in improving their ability not only to conceptualise and plan research projects but also to synthesise their research findings into scientific papers. Mentorship, thematic workshops, methodology courses, scientific paper writing workshops, access to scientific literature and support to attend scientific meetings are crucial for these young scientists. Such activities can provide critical elements that are needed by any researcher to carry out good quality research. Young scientists appreciate the affiliation with an international agency such as IFS, and they see the need for greater information about and access to specialists within their own and neighbouring countries.

These issues were prominent at all three consultative meetings. Moreover, the meetings held in Kuala Lumpur and Córdoba also looked specifically at how the scientifically advanced countries in the region could interact with, and support science development in, their scientifically less advanced neighbours and how IFS could play a constructive role in this process.

IFS has taken these suggestions to heart and incorporated them into the new IFS Five Year Programme.



Photo: Brian Porter

Prof Son Radu, Malaysia (2nd from left) IFS Adviser and former grantee in his lab at the Food Science Dept of the Universiti Putra Malaysia (UPM) with a number of students. He has encouraged a number of them to apply for IFS grants.

Profiles of three IFS Grantees



IFS grantees in developing countries work often under quite challenging conditions.

We have chosen to highlight the experiences of three grantees, one from Africa, Latin America and Asia respectively. The tales of Dr Borin and Dr Calle were first presented at the IFS Regional Assemblies held in Asia (2005) and in Latin America (2006) while the interview with Dr. Naik was conducted in connection with the IFS-OPCW workshop in Nairobi 2006.

Dr Yogeshkumar S Naik

Department of Environmental Science and Health,
National University of Science and Technology,
Bulawayo, Zimbabwe

Dr Yogeshkumar S Naik received his first IFS grant in 1993 for a project on how to use bio-markers to detect freshwater pollution. He received a second grant in 1999. Dr Naik's research involves the development of methods to monitor the presence of pesticide pollutants in water bodies to predict the safety of water for human/animal consumption. While analytical chemical techniques can provide information on residue levels, they are not optimal for predicting the biological/molecular/cellular/physiological/ecological effects that pesticides may cause. Biomarkers (plant/animal) provide more useful information than chemical methods. Dr Naik and his team have used several freshwater aquatic snail species under laboratory conditions to develop biomarkers to monitor aquatic pesticide pollution. The pesticides assessed include OCs (endosulfan), OPs (malathion/pirmiphos) and PTs (deltamethrin). The end-point studies include altered activity of enzymes such as cholinesterases and antioxidant enzymes such as superoxide dismutase

(SOD), catalase (CAT), DT diaphorase (DTD), and glutathione-S transferase (GST).

Dr. Naik attended the IFS-OPCW workshop *Chemistry in Nature* held in Nairobi, Kenya in December 2006 (see page 20) - the following is excerpted from the interview we conducted with him there.

Why did you choose this particular research topic?

“Water is a scarce resource in Southern Africa, where droughts are frequent. Water bodies in the region provide drinking water not only for humans but also for wildlife. Many water bodies (lakes) also provide a livelihood for rural people through fishing and tourism. The quality of the water therefore needs to be monitored and maintained so that the threat of water pollution is minimised. The economies of the countries in the region are dependent on both agriculture and mining. Pesticides are used widely in agricultural activities in production as well as storage of the crops. These can find their way into the ecosystem and in certain cases remain in water bodies for extended periods of time.

Pesticides are also used to control a number of communicable diseases such as malaria (transmitted by mosquitoes) as well as trypanosomiasis (transmitted by tsetse flies). Mining activities result in the release of metals into the environment through leaching. Several chemicals are used in mining activities, and these also find their way into the aquatic ecosystems. The scarce water bodies are therefore under constant threat from metal and pesticide pollution. This can have a negative impact not only on human health but also on the ecosystem as a whole. While there are several methods to measure the levels of pollutants there is little information on the effects that the pollutants have on ecosystems. While there

are several methods to measure pollution levels, there is little information on the effects that pollutants have on ecosystems. In order to be able to understand such effects at the ecosystem level, it is important to study the effects of pesticide and metal pollutants on aquatic organisms. My current research activities focus on the study of cellular and biochemical effects on aquatic organisms.

Who do you think can use the knowledge resulting from your studies and how can they use it? Have you collaborated with them or other stakeholders during your research work?

“ Knowledge of the impacts of anthropogenic activity on the quality of water resources will provide information on the extent to which water bodies are under threat. Such information is useful to policy-makers as well as other stakeholders, such as farmers and miners/industrialists. The former can use it to ensure that correct legislation is enacted to protect the water resources while the latter, in particular, would need to behave more responsibly.

Sharing information about this research methodology has prompted other countries in Southern Africa to follow suit in starting research on ecotoxicology, and this will benefit the region as a whole.

We are also sharing our research results with local municipalities and hope to share newer information with national bodies (mainly government) when it becomes available. We plan to create a greater awareness of the threat of water pollution by holding short awareness workshops for high school students with the help of environmental educationists.

Has collaboration with stakeholders had any important impact on, for example, the quality of the research (more relevant research questions being identified) or the improved understanding of the partners involved in the issues at stake?

“ Yes, but only to a very limited extent. The research technology being used is not entirely new in industrialised countries. In Southern Africa, many of the analytical chemical techniques (GC/AAS) have been employed for some time to measure residue levels. However, the research area ecotoxicology and the newer approaches/techniques such as the use of biomarkers that we employ are still not well understood or appreciated. In order to address this problem, an undergraduate course on this topic has been introduced at my university, and plans are underway to have an M.Sc. course introduced on this topic. Had it not been for the relative success of the project initially funded by IFS, it is extremely unlikely that even the undergraduate course would have been introduced by now.



Photo: Yogeshkumar Naik

Dr Yogeshkumar Naik

Do you have a wider network of professional colleagues as a result of your IFS grant?

“ Due to the initial funding by IFS and later by International Programs in Chemical Sciences (IPICS) at Uppsala University, I have been able to initiate collaborative projects with colleagues in the UK and Sweden. More recently, through networking with colleagues in Tanzania and Sweden, some training courses have been held in Tanzania for training young scientists in the region. This initiative has received crucial support from primarily Swedish scientists in Stockholm and Uppsala.

What have you learned in addition to the research itself that you think is important and that can help you be more effective in your role as a professional scientist?

“ Over the years I have been able to supervise several technicians as well as post- and under-graduate students. I have therefore gained experience in developing projects and supervising scientists. This has helped me to develop both professionally and personally. I have also learnt to network and interact with scientists at the regional and international level. The lessons learnt from writing IFS grant applications gave me confidence to develop proposals and to apply for funds from other donors (IPICS and DFID).

With the benefit of hindsight, how might the impact of your research be improved? What needs to be done? What role could IFS play in bringing about the necessary changes?

“ I have been fortunate in that the IFS funded project generated sufficient data and information that provided a basis for additional funding applications. The IPICS programme has since provided a larger grant for an extended period of time that also made possible the purchase of necessary but more expensive equipment. It has also made networking and collaboration—in my case primarily through the initiatives of Prof Rune Liminga and especially Prof Malin Åkerblom—possible. IFS grantees can often find themselves in a situation where they have produced some preliminary information with a small IFS grants but are still unable to attract medium level or large grants that would allow them to strengthen their laboratories and other necessary facilities, which would in turn enable them to develop thematically-focused research groups for sustained activity and growth. It is likely that more scientists can be retained if such medium level grants were made available on a much more competitive basis.

Dr Khieu Borin

Center for Livestock and Agriculture Development (CeAgrid), Phnom Penh, Cambodia

Khieu Borin started his first IFS grant in 1996 and his second grant in 2001. His research has helped farmers diversify their source of income by developing pig feed alternatives using both sugar palm juice as an energy source and cassava leaves as a protein source. Today he is Head of the Center for Livestock and Agriculture Development (CeAgrid) in Phnom Penh where he is nurturing an innovative research programme to meet farmers' needs in Cambodia. He attended the IFS Regional Assembly in Kuala Lumpur, Malaysia, in August 2005 to discuss IFS support to young scientists in Cambodia. He made the following presentation entitled: *Sugar palm juice and cassava leaves – finding alternative pig feed in support of income generation and food security for small farm households.*

“ In 1994, I was encouraged by Dr. Reg Preston, an IFS Scientific Adviser, to apply for an IFS research grant. At that time Cambodia had almost no research

This would allow IFS grantees/scientists who show potential to be provided with the necessary financial resources to set up and sustain useful and active labs.

Are there any other issues in the context of IFS supported research you would like to raise?

“ Greater interaction through networking among IFS grantees would allow for the sharing and passing on of experiences and information, though I am not quite sure how this could be done. I have found that interaction with scientists in Southern and East Africa has helped to convince me that there will be a time in the future when we could begin three way collaborative projects where two of the three partners would be in Africa and the third would be in Europe. In this way there could be much more interaction at the regional level where research interests/problems are common. The “Northern” partner would also be interested in the local problems and could help by providing valuable theoretical and practical support. They would also help in the transfer of newer technologies that are relevant to the region through the collaborators.

capacity as a result of the civil war which had lasted more than a decade. Having received the necessary information from IFS I started to consult and discuss with farming communities to identify their problems and needs. One priority among farmers was to find a solution for their sugar palm syrup production. This was an important source of income for them but they lacked the firewood needed to condense sugar palm juice into syrup. After a number of consultations and discussions with sugar palm producers, they agreed to try to diversify their income by using sugar palm juice to feed pigs that they could then sell. My research proposal to IFS was approved in 1995, and I was able to carry out an



Dr Khieu Borin

Photo: Khieu Borin



Photo: Khieu Borin

Dr Khieu Borin addressing a group of farmers at the Center for Livestock and Agriculture Development in Phnom Penh, Cambodia.

on-farm experiment in Bati District, Takeo Province. Eighteen farm families were selected to participate in the trial and seventy two piglets (average 15 kg each initial weight) were distributed to them (on average 4 piglets each). In the first experiment, pigs were fed ad libitum sugar palm juice with a 130 g protein supplement of cooked soybean grains resulting in a daily weight gain of 405 g per pig per day. In the second experiment, fish not used for human consumption supplemented a basic diet of sugar palm juice which resulted in normal growth rates of fattening pigs. Participating farmers were very happy to have this alternative use of sugar palm juice that provided an alternative source of income. In addition, a comprehensive study on the growth of male and female sugar palm trees and their monthly juice production and farmers' experience in manipulating sugar palm inflorescent according to sex was carried out. The refractometers purchased with this IFS grant were important for quantifying the brix value of sugar palm juice. The results of this trial were written up for my Master's degree thesis at the Swedish University of Agricultural Sciences (SLU), Sweden.

Building on the results from this first research project I continued to search for alternative pig feed. Sugar palm juice has a high energy concentration and is free of fibre making it suitable to combine with other forage feed stuffs of high fibre content such as water spinach, sweet potato vines, cassava leaves, etc. A second proposal was approved by IFS in 2002 with the title 'Cassava leaves as a protein source for pigs fed sugar palm juice'. The second grant allowed me to buy a laptop computer for data entry and report writing and IFS assisted with the purchase of equipment for nitrogen analysis (Foss-tecatur digestion

and distillation apparatus) and a precision electronic scale. This laboratory equipment enabled more comprehensive and complex experiments to be carried out. These included on-station experiments to measure the digestibility of cassava leaf meal and silage fed to local (MongCai) and improved (Landrace x Yorkshire) breeds using sugar palm juice and palm oil as energy sources. The results showed that the intake of DM, CP, CF organic matter were significantly higher when pigs were fed cassava leaf meal than cassava leaf silage and that the local pigs digested dietary fibre more efficiently than the improved breed, whereas the improved pigs utilized nitrogen more efficiently than the local pigs. These results were published in a paper - Effect of variety and preservation method of cassava leaves on diet digestibility by local and crossbred pigs - British Society for Animal Science 2005, 80: 319-324). Most Cambodian farmers keep local breeds and in some areas they also keep improved breeds so the result from this experiment could be interpreted into simple technical messages which extension workers could use in demonstrations to farmers. These experiments provided the basis for my doctoral degree at SLU, Sweden.

Thanks to the IFS grants and experience gained from my research and studies I have been able to take on the role of head of Celagrid and support other young researchers. The results from their experiments contribute to finding solutions to constraints faced by farm families to improve their agricultural productivity and food security.

Eighty-five percent of the Cambodian population live in rural areas and are dependent on agriculture for their livelihood. They are often poor and illiterate. Their farming system is complex and the technology they have developed is deeply embedded in their culture and world view. It is important for young scientists to understand this and the problems and needs of small farmers. Agriculture education and technology development must both contribute to improving farmers' livelihoods as well as minimize harm to the natural ecosystem on which they are dependent. For this reason on-farm trials are the common strategy for Center for Livestock and Agriculture Development (CelAgrid).

The situation of young scientists in Cambodia presents many challenges. Many have limited formal education and a weak research orientation. Coupled with poor research facilities and government budget constraints these young scientists have little chance to explore their potential. They lack access to scientific materials and facilities (everything from libraries, computer hard and software, demonstration farms, laboratories, etc.). They

also lack opportunities to meet and work with experienced scientists. In addition, young scientists must also understand the development context and therefore should be knowledgeable on approach and methodologies to work with the rural communities.

CelAgrid is meeting these constraints through the following strategies:

- Creating an appropriate environment allowing young scientists to understand the needs, problems and potential of technology end users for research development
- Giving young scientists orientation on research design, data collection and analysis
- Encouraging 3 or 4 young professionals to work together on a research topic under the supervision of an experienced researcher
- Providing them with access to research facilities and scientific literature
- Organizing workshops to present their findings
- Assisting them in research proposal development

At present CelAgrid has a total of 47 staff of which 25 are young professionals committed to research and community development. In addition, approximately 30 - 40 students from the 4 main agricultural universities in Cambodia are accepted to do their internship so

they can get practical skills and experience and carry out research activities for their degree theses. Today CelAgrid is implementing projects in 83 communities and it is in the process of starting new 216 communities in Cambodia CARE - Cambodia. These community development works make it possible for young scientists to expose themselves to rural and agricultural development activities where they can apply their research findings in order to find solutions to the constraints faced by poor farm families. Working in this way creates excellent opportunities to better understand further research needs. Further information about CelAgrid, its activities and publication can be found at www.celagrid.org

Until now seven more young Cambodian researchers have received IFS grants to support their research activities. One of them is currently carrying out the research jointly with farmers, while the others also involve local people in various ways.

I firmly believe that science is playing an important role in driving development to meet the present and future challenges of an increasing world population and the global warming presently taking place. IFS has an essential role to play in supporting young scientists in the non-industrialised world to break through with new ideas for achieving harmony between humans and the earth on which we are all dependent.

Dr Zoraida Calle

Center for Research on Sustainable Agriculture, CIPAV, Cali, Colombia

Zoraida Calle received her first IFS grant in 1999 and her second grant in 2002. Her research is on the reproductive phenology of *Montanoa quadrangularis* ASTERACEAE, known as "arboloco" or "mad tree," and its use in the restoration of degraded pasture lands to forest. It grows naturally in Colombia and Venezuela at 1300 – 2800 m.a.s.l. and provides useful timber. Colombia has lost 79% of its Andean forest cover and countless species have disappeared as a result of this deforestation. The population is dependent on these forests for both water and energy. There is, however, insufficient knowledge about the biology of native trees. The species *Montanoa quadrangularis* Its seeds are wind dispersed, and it is common

in disturbed areas. Dr Calle wanted to learn more about how it can be used for the ecological restoration of tropical mountain forests. She is based at the Centro para la Investigacion en Sistemas sostenibles de Producción Agropecuaria (CIPAV) in Cali, Colombia.

At the IFS Regional Assembly in Argentina, May 2006, Dr Zoraida Calle discussed IFS support to young scientists in Colombia and below is an extract from her presentation: *Learning about the native tree Montanoa quadrangularis* ASTERACEAE for use in the ecological restoration of Andean forests.

“With the support of two IFS grants, I have been able to carry out research that has contributed knowledge on the reproductive biology and regeneration habits of arboloco and on the development of simple techniques for the ecological restoration of Andean forests based on the use and management of this species.

In the absence of soil disturbance, the probability of successful establishment of this tree through recently dispersed seeds is lower than one in a million. Successful establishment occurs almost exclusively in areas immediately adjacent to forest edges. Intermediate shade favours its regeneration, probably indirectly, through inhibition of exotic pastures. Arboloco can be said to have a catastrophic mode of regeneration, as soil disturbance facilitates seed germination and seedling growth: it is a landslide specialist.

This knowledge about its regeneration habits made it possible to test the best way to use it in forest restoration. Seedlings were planted in strips adjacent to forest edges to facilitate the advance of forests over pasture land and in strips with partial shading to imitate edge micro-environments. Seedlings were also planted in blocks directly in degraded pastures. These trials were set up with a control plot to determine succession in pasture land and other plots where the seedlings were planted in a *Tithonia diversifolia* (Mexican sunflower) 'foster' plantation. *T. diversifolia* provided green manure, weed control and a barrier to leaf cutter ants.

This knowledge is being applied by small farmers, foresters and government institutions throughout the Andean slopes of Colombia to enhance the recovery of degraded forests. Grey literature such as posters and a forestry manual helped spread the technology. Spontaneous adoption and adaptation of these principles have done the rest. As small farmers trained by CIPAV in different rural areas witnessed the fast recovery of secondary forests, they began to use arboloco to begin their own small-scale restoration activities.

Being innovative in a war torn zone

Because this research was being carried out in an area influenced by paramilitaries, leftist guerrillas and narcotics traffickers, the trials were set up in two separate localities in order to split the risk for losing the whole experiment. This was instead of having four blocks in one location – a more acceptable scientific design as it can show good replication. During the trials field workers were temporarily held by narcotic traffickers and researchers were caught in crossfire. Despite this, the work was completed successfully. Unfortunately, the write-up of this work was rejected by a scientific journal due to what the editors considered to be imperfect design.



Photo: Brian Porter

Dr Zoraida Calle

Since then, the restoration work has been published nationally, where editors realistically accept that imperfect designs are better than no research at all. The detailed Montanoa phenology data provided a key piece of evidence for a paper about photoperiodic control of flowering near the equator, published in *Nature* in 2005.

IFS support has been important for my own career as my research has been recognised both nationally and internationally. More than 20% of the IFS grants have been used to pay field assistants—a good investment in the future. They receive scientific training and support for a college education: they are the next generation of researchers. IFS support has also been important for my colleagues at CIPAV. They have benefited from access to field equipment, statistical software, scientific literature and training and research experience. In fact, it is possible that CIPAV owes its existence to the fact that IFS believed in young researchers without much scientific training who were supported by a young and small organisation. It has had a catalytic effect. These young researchers have become visible in the national S&T system, and CIPAV has become a respected organisation with national and international credibility. CIPAV is now in a position to act as an IFS partner and support young researchers in neighbouring countries.

OPCW – IFS A Successful Partnership



The Organisation for the Prohibition of Chemical Weapons (OPCW) Division for International Cooperation focuses on capacity building for peaceful applications of chemistry in areas which are relevant to the Chemical Weapons Convention (CWC). Its mission, complementary to that of IFS, has formed the basis for a strong and fruitful collaboration during the past seven years. During this period, IFS and OPCW have awarded co-funded research grants to over 200 researchers in 40 developing countries.

The overall goal of the joint IFS / OPCW programme is to “foster national capacity building in developing countries while maintaining the principals of the CWC.” The strategy to achieve the goal is to co-fund research projects in areas relevant to IFS and the CWC which include natural products chemistry, studies related to analytical methods, studies related to the substitution of toxic chemicals and other research related to toxic chemicals.

IFS / OPCW Collaboration in 2005 – 2006

During the biennium 2005-2006 a total of 91 research grants were jointly funded. The regional distribution showed that researchers from Sub-Saharan Africa and Asia formed the largest groups, each appropriating one third of the grants, while researchers based in Latin America received 25% and those in the Middle East and North Africa only 7%. Distribution according to academic discipline/research area showed that research projects in the field of natural products chemistry dominated. The gender distribution was 66% male and 34% female researchers.

Chemistry in Nature Workshop

In addition to the joint grants for research projects, IFS and OPCW have co-sponsored several workshops over the



Photo: Trebor Photos

Dr. John Makhubalo, retiring Director, International Cooperation and Assistance Division, OPCW and Dr Michael Ståhl, Director, IFS, at the Chemistry in Nature Conference in Nairobi, December 2005.

years, including Chemistry in Nature: Natural Resources; chemical, biological and environmental aspects, which was held in Nairobi, Kenya, 10-14 December 2006. Of the 51 participants 28 were current or former IFS/OPCW grantees based in Africa; they came together to share experiences, present their latest research results and discuss challenges within their research areas.

The aims of the workshop were twofold. Firstly, IFS and the OPCW are undertaking an evaluation of the IFS/OPCW joint programme in order to assess its impact. Thus, the first part of the workshop focused on this study, including discussions on the benefits derived from the IFS/OPCW research grants and on how the support from IFS and OPCW could be improved. The following positive results for grantees were identified:

- Increased opportunities: IFS/OPCW funding has provided a springboard for further research enabling scientists to apply for and obtain further funds from other sources and to expand their network of collaborators. It has also enabled teams to form and expand their research agenda.
- Greater influence: Greater recognition as professional scientists has enabled grantees to take up influential positions on the boards of important governmental committees that influence science policy.
- Improved managerial and leadership skills: IFS/OPCW grantees have received international exposure and experience which has improved their management and leadership capacity.

The second part highlighted chemistry and bio-resources utilisation. It included presentations on soil, water and food chemistry as well as research on medicinal and food plants with potential for use in relation to human health. This part of the workshop functioned as a forum for IFS/OPCW grantees from various research disciplines and research institutions in Africa to present their latest research results and discuss challenges within their research areas.

The key-note speakers raised important issues related to the situation of science in Africa. Of great concern was the relevance of scientific research to the developmental challenges facing Africa today. Prof Berhanu Abegaz, University of Botswana, appreciated the participation of researchers from all over Africa and stressed the importance of thinking of Africa as one place—with diversity but also with unity. He also noted the dissonance between science and policy and challenged the participants by posing two important questions to guide research: How good is the science? How relevant is the science?

In our facility-constrained environments, he emphasised the importance of reflecting on the research priorities for African scientists and on who is setting the agenda. Research today has become multidisciplinary and market-driven while there is at the same time an increasing need to ensure its problem-oriented relevance. There appears to be a lack of focus and direction as well as a lack of consistent criteria to evaluate proposals and promotions. He went on to ask how Africa can benefit from its genetic affluence.

Dr Boitumelo Kgarage, Senior Officer at the OPCW International Division, asked the pertinent question: "After science then what?" She pointed out that Africa had produced scientists who have contributed to knowledge and that there was now a need to convert these good findings into tangible economic benefits.



Photo: Eva Bostig

Prof Berhanu Abegaz, University of Botswana, an IFS Adviser and former grantee, was a key-note speaker at the Chemistry in Nature Workshop in Nairobi.

Participants also had a range of suggestions for dealing with these constraints by improving the content and modalities of the grant.

To improve the impact of research activities they concluded that the continued funding of social sciences and researchers in multidisciplinary research teams was important. By contributing to a better understanding of development issues it can help to provide the missing link between science and policy making. Research also needs to better support sustainable economic development—it needs to result in useful products and services for society—not just academic papers for publication.

Another important area is information and networking. This included aspects such as South-South cooperation, strengthening of regional networks and alumni associations, increased involvement by the grantees' home institution in IFS-related activities and improvement of researchers' lobbying skills so scientists can better argue for and convince national policy-makers of the importance of investing in science.

IFS wants to acknowledge the support and friendship of Dr. John Makhubalo, Director, International Cooperation and Assistance Division, OPCW, who retired from his position shortly after the IFS-OPCW workshop.

A selection of IFS/OPCW Grantees
at the 'Chemistry in Nature' Conference
in Nairobi, December 2006



William Joseph Ntow,
Ghana



Latifou Lagnika,
Benin



Zachary M Getenga,
Kenya



Andriamahavola Rakoton-
dramanana, Madagascar



Mohamed Gargori,
Tunisia



Ignatious Ncube,
South Africa



Raphael Tihelwa Chibunda,
Tanzania



Mohamed Cherif,
Tunisia



Chemutai Christine Bii,
Kenya



El Hassane Abdennebi,
Morocco



Erick Strauss,
South Africa



Harilala Fara Randrianari-
soa, Madagascar



Wendy A Stirk,
South Africa



Zacharia Gnankambary,
Burkina Faso



Yogeshkumar Naik,
Zimbabwe

Prof Berhanu Abegaz, University of Botswana, appreciated the participation of researchers from all over Africa and stressed the importance of thinking of Africa as one place—with diversity but also with unity



Dalila Haouas,
Tunisia



Mosunmola Olajire Akinbulumo,
Nigeria



Archana Bhaw-Luximon,
Mauritius



Willy Kiprotich Tonui,
Kenya



Susan Balaba Tumwebaze,
Uganda



Nour-Eddine Es Safi,
Morocco



Deborah AtienoAbong'o,
Kenya



Job Kihara,
Kenya



Selalelo Mpotokwane,
Botswana



Djibril Yonli,
Burkina Faso



Wycliffe Wanzala,
Kenya



Fatima Benkhalti,
Morocco



A C Ogbouna,
Nigeria



Selestin Dongmo Sokeng,
Cameroon



Mamoudou H Dicko,
Burkina Faso

Awards to IFS Grantees in 2005-2006



IFS Jubilee Awardees 2005 - 2006

The IFS Jubilee Award was established in 1997 as the "IFS Silver Jubilee Award". As a mark of the 30th Anniversary, the IFS Board of Trustees decided to change the name of the IFS Silver Jubilee Award to the IFS Jubilee Award. It is given to grantees from Latin America/ the Caribbean, Asia/ the Pacific and Northern Africa (up to eight awards per year). Since its inception, the Award has gone to 40 IFS grantees. The Award is in the amount of USD 2,000.

QUEZADA-EUAN, José J G	Mexico
Research project:	Genetic variability of native bees from the Yucatan peninsula
Institution:	Facultad de Medicina Veterinaria Universidad Autónoma de Yucatán Merida, Yucatán
SIGNORELLA, Sandra	Argentina
Research project:	The chromium binding to polygalacturonic acid and pectins. Plant uptake and removal of chromium from waste waters
Institution:	Facultad de Ciencias Bioquímicas y Farmacéuticas Universidad Nacional de Rosario Rosario
WANG Sanying	China
Research project:	Proteome and neutralising antigens of immune complexes in fresh water fish infected with bacteria
Institution:	Department of Biology, School of Life Sciences Xiamen University Xiamen
QUILLFELDT, Jorge Alberto	Brazil
Research project:	Roles of cholinergic system in memory formation: effects on muscarinic toxins from mamba venoms in rats in different tasks

Institution:	Depto de Biofísica Universidade Federal do Rio Grande do Sul Porto Alegre
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SALINAS, Gustavo	Uruguay
Research project:	Antioxidant enzymes of <i>Echinococcus granulosus</i>
Institution:	Facultad de Química/Ciencias Universidad de la República Montevideo

LIU Shengquan	China
Research project:	Consequences of rapid growth forestry practices on wood quality
Institution:	Forest Utilisation College Anhui Agricultural University Hefei

HERAS, Horacio	Argentina
Research project:	Effect of hydrocarbon pollution on the lipid metabolism of the shrimp <i>Macrobrachium borellii</i> in the La Plata river estuary
Institution:	Facultad Medicina Universidad Nacional de La Plata La Plata

VARGHESE, Mohan	India
Research project:	Estimation of effective population size and genetic gain in progeny of first generation seedling seed orchards of <i>Eucalyptus</i> and <i>Casuarina</i>
Institution:	Institute of Forest Genetics and Tree Breeding (IFGTB) Coimbatore

ETAHIRI, Samira	Morocco
Research project:	Purification et caractérisation structurale de substances à activité pharmacologique à partir des algues marines de la côte Atlantique Marocaine
Institution:	Faculté de Sciences El Jadida Université Chouaïb Doukkali El Jadida

IFS Five Year Programme (2006-2010)



The IFS Five Year Programme (2006-2010) grew out of the consultations which took place in 2005-2006, presented in the previous section. The Programme's point of departure was that a strong scientific capacity, coupled with technological innovativeness and entrepreneurship, is a primary mover for development. The document is available in its entirety on the IFS homepage www.ifs.se/publications.

The IFS Five Year Programme galvanises the focus for IFS support on young researchers in IFS priority countries, which have been identified as low income countries with vulnerable scientific infrastructures (see www.ifs.se/programme for a list of eligible countries). Comprehensive capacity enhancing support should cater to the individual, specific needs of grantees. It should include a selection of capacity enhancing activities that are often lacking for these young scientists: mentorship, thematic workshops, methodology courses, scientific paper writing workshops, help to access scientific literature, and support to attend scientific meetings. The capacity enhancing support is provided in addition to the IFS research grant.

Within the context of sustainable development, the overall goal of IFS is to:

contribute towards strengthening the capacity of young scientists in low income countries with vulnerable scientific infrastructures to conduct relevant and high quality research on the sustainable management of biological and water resources.

IFS will support young scientists in order to:

- help achieve a critical mass of researchers capable of undertaking qualified research, pursuing a research career and emerging as science leaders within their own countries;
- increase the stock of scientific knowledge in low

income countries with vulnerable scientific infrastructures relevant to the sustained management of biological and water resources.

Core Programme Components

Competitive Research Grants Scheme

A competitive research grants scheme to identify and support promising young scientists to carry out research at their home-based institutions. Past experience confirms that this scheme has been instrumental in transforming an academic degree holder into a scientist who can plan, conduct and report a research project independently. Interdisciplinary and multidisciplinary research will be encouraged by facilitating the formation of research groups and operational networks.

The target for the IFS Five Year Programme period is to award between 250 and 300 grants annually, an increase from the average 230 grants awarded annually from 2002 to 2005. More than two-thirds of these grantees will be based in IFS priority countries, i.e. low income countries with vulnerable scientific research infrastructures, and women researchers will be particularly welcome to apply.

Capacity Enhancing Support

As IFS focuses its support primarily on low income countries with vulnerable scientific infrastructures, capacity enhancing support takes on an increased significance. Such support will be systematically developed and introduced during the IFS Five Year Programme period and made available either as funding for a grantee to participate in a single capacity enhancing activity or as a package of activities for a grantee to take part in throughout the duration of his/her research project.

The capacity enhancing support will make it possible for grantees, and in certain cases also applicants, to:

- participate in training workshops on topics such as scientific methodologies; conceptualising and preparing research proposals; accessing scientific literature; developing statistical methods and experimental design; establishing and maintaining good laboratory practice; including an equipment policy; preparing scientific presentations; writing and publishing scientific papers.
- attend thematic workshops, seminars, conferences and courses in specific scientific fields such as state-of-the-art and new scientific findings; research planning and strengthening of scientific capacity; use of specialised equipment in well-equipped laboratories and identifying research questions that can better support economic and sustainable development goals.
- receive mentorship support from a mentor who can offer specialist advice during strategic stages of their research.

IFS will also support efforts to mobilise networks including alumni groups, interdisciplinary research groups and thematic networks. IFS can also offer a grantee the opportunity to participate in scientific meetings towards the end of the research project period in order to enable her/him to present the research findings.

When appropriate and possible, IFS will arrange these workshops and courses jointly with other organisations.

Non-core Components

In addition to the two core programme components outlined above, IFS will continue to conduct the following non-core activities upon request and when special funding is secured:

- organise thematic workshops bringing together IFS grantees and alumni with research networks in Europe and North America.
- provide advice to national authorities who are planning to set up their own competitive research grant schemes.
- develop pilot projects to actively support young women scientists.

Scientific Advisers, Affiliated and Partner Organisations

More than 1,000 Scientific Advisers, many based in Affiliated and Partner Organisations around the world, constitute IFS's unique scientific resource base. They will continue to play a central and crucial role in the implementation of the IFS Five Year Programme. Amongst alumni grantees are a growing number who have become prominent scientists in their own countries. They are an invaluable resource for IFS, working as they do on a voluntary basis to help assess applications and support young scientists to achieve research success. They also function as resource persons in various capacity enhancing activities carried out in collaboration with IFS.

IFS Regional Presence

IFS will explore the feasibility to establish a regional presence, hosted by a Partner Organisation, in areas with dense grantee populations.

Reporting, Monitoring and Impact Assessment

The IFS Monitoring and Evaluation System for Impact Assessment (MESIA) databases will continue to be updated to provide information for MESIA studies. During the IFS Five Year Programme period, impact assessments will be carried out to measure:

- the scientific productivity of IFS grantees (e.g. international and local publications);
- advancement of grantee research careers (e.g. degrees, professional positions, awards, honorary positions);
- IFS grantee contributions to science capacity building (e.g. supervision of M.Sc. and Ph.D. students, participation in and establishment of new networks, holders of national and international science policy positions);
- the impact of the capacity enhancing support on research quality and career success;
- the development results of IFS grantees' scientific work (e.g. products, patents, contributions to policy making, etc.).

A report on MESIA activities during 2005-2006 can be found on pps. 21-22.

MESIA: Impact Studies IFS makes a difference



IFS keeps track of the scientific careers of grantees through the Monitoring and Evaluation System for Impact Assessment (MESIA) which produces and analyses data on grantees. MESIA was specifically developed for the evaluation of the capacity strengthening efforts of IFS: to assess the impact of IFS activities on the achievements and career development of IFS grantees.

The IFS Impact Studies also investigate the research environment and working conditions of IFS grantees, and provide an overview of national science and technology systems.

The analysis is based on data available in the IFS database, the scientific output of IFS grantees, questionnaire surveys, and interviews with scientists and policy-makers.

Four studies have investigated the impact of IFS in Mexico, Tanzania and Cameroon, and surveyed results in Africa. These studies have shown that IFS grants do make a difference.

In 2005-2006, IFS produced a Summary of IFS Impact Studies Nos. 1-5 in order to provide an easy reference to the findings.

Key points are the following:

1. Young researchers provided with a grant at the start of their research career tend to stay and work and contribute within their own country. Even if initial research activity provides opportunities for further research elsewhere, these grantees tend to return, even better equipped, to their home base.
2. These relatively small research grants have often been an important factor in enabling young scientists to pursue a research career despite adverse conditions. IFS grants have helped to keep research careers alive.

3. The support services that IFS provides along with the grant constitute more than just basic support to the grantee. Purchasing or enabling the purchase of vital, and often very basic, research equipment, has, for example, helped to establish research laboratories which benefit far more people in the scientific community – researchers, students, and technicians – than just the initial grantee.
4. The competitive nature of the granting process has been successful in identifying scientists with potential to become scientific leaders in their community.
5. Success in gaining an IFS grant tends to be perceived as prestigious, and grantees often have access to larger funding sources after the IFS grant.
6. Gaining an IFS grant acts as a stimulus to an upsurge in scientific productivity.

The MESIA reports are available on www.ifs.se/publications.

Food Science—a Relevant Area for IFS Support

A new aspect of MESIA is to assess IFS support according to Research Areas. In 2005/2006 an evaluation was conducted of the Food Science Research Area in terms of grantees' career progress, their scientific production as well as grantees' research orientation in relation to the needs of developing countries. The author of the study is John Taylor, Professor at the Department of Food Science at the University of Pretoria, South Africa. The full report, MESIA Impact Studies, Report No. 7, June 2006, is available at www.ifs.se/publications

The general conclusion resulting from the evaluation was that IFS Food Science Research Area is relevant indeed.

IFS support is successful in terms of having a positive impact on the careers of grantees. IFS support is unique and critical for helping young scientists in this field. Not only has it resulted in their assisting the food industry, including the export food industry but it also allowed grantees to become recognised experts in areas such as food safety and quality nutritional status.

IFS Food Science grantees achieve; they show good publication records:

- Almost 70 % of the grantees have published their research findings in international journals with an average of 15 papers per grantee from the start of their IFS support.
- 42 % of the grantees have published in regional and local journals with an average of 4 papers per grantee.

The results vary from one region to another. Grantees from Latin America have the highest rate of publications while grantees from Sub-Saharan Africa are less likely to publish their research. IFS will take into account these findings to accommodate the needs of Sub-Saharan African grantees by conducting more workshops on how to write a scientific paper.

Since 1974 IFS has awarded 642 research grants in the Food Science area. Of these grants, 35 % have been awarded to women scientists. Geographically, 29 % have been awarded to scientists in Sub-Saharan Africa, 28% to Latin America, 35% to Asia and 7% to the Middle East and North Africa.

The one area deemed to be in need of strengthening is putting research results into practice. Slightly less than half (45%) of the respondents reported that their research had enabled them to play a significant role in

science/technology implementation activities for the community. A wide range of contributions were, nevertheless, reported: direct technology transfer to industry, advice and consultancy to industry (including techno-economic assessments, food analysis, development of new analytical techniques and provision of food processing equipment), and advice and short courses for farmers' and women's groups (particularly in the area of safe food handling). Some 6% reported significant entrepreneurial activities arising from their research activities.

Suggestions for augmenting the impact of IFS supported research included the inclusion of more local reviewers who could better assess the relevance of proposals to local needs and to advise on local realities pertinent to the research. The need for financial help with patenting, starting up small-scale production and marketing of the developed product was also identified. Networks that link grantees and manufacturers could also help by providing mechanisms for promoting collaborative research projects and with complementary skills in all aspects of the farm to fork food pipeline. Possible activities include assisting each other with joint research proposals and publication writing, running training workshops and local/regional technical and scientific meetings and undertaking research and development implementation activities. Such activities would help to address the issue of scientist isolation in low income countries with vulnerable scientific infrastructure.

However, another important conclusion among advisors/stakeholders was that IFS should "stay in what you are doing and do it well—do not expand or shift direction without extra money coming in—you will lose effectiveness very quickly."

IFS MESIA Impact Studies

- Report No. 1 *Monitoring and Evaluation System for Impact Assessment (MESIA), Conceptual Framework and Guidelines*
Gaillard J.
Stockholm: IFS, 2000. 38 pages.
- Report No. 2 *Questionnaire Survey of African Scientists*
Gaillard J. and A. Furó Tullberg
Stockholm: IFS, 2001. 92 pages.
- Report No. 3 *IFS Impact in Mexico: 25 years of support to scientists*
Gaillard J., J.M. Russell, A. Furó Tullberg, N. Narvaez-Berthelemot and E. Zink
Stockholm: IFS, 2001. 152 pages.
- Report No. 4 *Strengthening Science Capacity in Tanzania: An Impact Analysis of IFS Support*
Gaillard J., E. Zink and A. Furó Tullberg
Stockholm: IFS, 2002. 104 pages.

- Report No. 5 *Science Research Capacity in Cameroon: An Assessment of IFS Support*
Gaillard J. and E. Zink
Stockholm: IFS, 2003. 72 pages.
- Report No. 6 *Summary of IFS Impact Studies Nos. 1-5*
Zink E. and Gaillard J (ed.) S. Major
Stockholm: IFS, 2006. 28 pages.
- Report No. 7 *Evaluation of IFS Food Science Area*
J R N Taylor
Stockholm: IFS, 2006. 64 pages.
(this document)

These reports are available in pdf format on the IFS website:
www.ifs.se

Workshops 2005-2006



IFS organized 35 workshops in 2005 and 2006. Some focused on the design and conceptualization of a research proposal. These workshops were planned for young scientists who are in the process of initiating a research project, i.e. they are future potential applicants and grantees. Other workshops had a methodological and thematic orientation. They were aimed at IFS grantees to help them proceed in their research work. Several workshops included modules of research design, scientific methodology as well as thematic specialization. All workshops were organized jointly with Partner Organisations. Staff from IFS and the Partner Organisation as well as IFS advisers functioned as resource persons.

Workshops 2005

- 17 - 19 January, Zambia
 Training Workshop; Research design and proposal conceptualization
 Thematic orientation; agriculture
 Partner Organisation: University of Zambia
 Participants: 22 Zambian researchers (potential applicants)
- 24 - 26 January, Senegal
 Training workshop: Research methodology, revision of project design
 Thematic orientation: sustainable agriculture
 Partner Organisation: CODESRIA
 Participants: 26 grantees from six African countries
- 24 - 29 February, Burkina Faso
 Thematic workshop: Pesticides and Other Organic Pollutants in Africa
 Partner Organisation: University of Ouagadougou.
 Participants: 70 young researchers in West Africa (potential applicants)

- 10 - 12 March, Bolivia
 Training workshop: Research design and proposal conceptualization
 Thematic orientation: multidisciplinary
 Partner Organisation: Universidad Mayor de San Simón (UMSS)
 Participants: 40 young researchers in Cochabamba (potential applicants)
- 7 April, Kenya
 Information workshop: How to apply for a research grant from IFS
 Partner Organisation: University College of Science and Technology in Western Kenya.
 Participants: 100 students and teachers
- 29 March - 2 April, Senegal
 Training workshop: Revision of research proposals
 Thematic orientation: agriculture
 Partner Organisation: CORAF
 Participants: 18 grantees from West Africa
- 2 - 5 May, Jordan
 Thematic workshop: Grey Water Reuse for Poverty Alleviation
 Partner Organisation: INWRDAM
 Participants: 34 applicants as well as senior scientists
- 6 August, Malaysia
 Thematic workshop: Natural products
 Partner Organisation: Malaysian Scientific Association (MSA)
 Participants: 10 IFS grantees
- 5 - 9 September, Chile
 Thematic workshop: Semiochemical research in Latin America
 Partner Organisation: Departamento de Ciencias Ecológicas, Facultad de Ciencias, Universidad de Chile
 Participants: 40 young researchers (grantees and potential applicants) from Latin America as well as researchers from Sweden and other European countries.

- 17 - 21 October, Burkina Faso
Thematic workshop: Biological sanitation in West Africa (community management of grey water, urine and excreta) scientific methodology, writing research proposals, access to electronic literature, service and maintenance of scientific equipment
Partner Organisation: Centre régional d'eau potable et d'assainissement à faible coût (CREPA).
Participants: 48 young scientists from West Africa (potential applicants)
- 23 - 26 November Guatemala.
Training workshop: Research design and proposal conceptualization
Thematic orientation: multidisciplinary
Partner Organisation: NETROPICA
Participants: 20 young researchers from Central American countries (potential applicants).
- 6 - 7 November, Vietnam
Information workshop: How to apply for an IFS Research Grant
Partner Organisation: Hanoi Agricultural University.
Participants: 80 young scientists
- Workshops 2006**
- 8 - 9 January, Nepal
Thematic workshop: Waste management
Partner Organisation: University of Kathmandu
Participants: 40 young scientists from South Asia (potential applicants)
- 10 - 12 January, Nepal.
Training workshop: Scientific methodology, research design and proposal conceptualization
Thematic orientation: waste management
Partner Organisation: University of Kathmandu
Participants: 40 young scientists (potential applicants)
- 6 - 10 March, South Africa
Training workshop: Research design and conceptualization of proposals
Thematic orientation: water management
Partner Organisation: IWMI
Participants: 6 young scientists (applicants)
- 5 - 7 April, Burkina Faso.
Thematic orientation: multidisciplinary
Partner Organisation: CREPA
Participants: 10 young scientists (potential applicants)
- 23 - 27 April, Bangladesh
Training workshop: Scientific methodology, research design and proposal conceptualization
Thematic orientation: Integrated Water Resources Management & Sanitation
Partner Organisation: BCAS and CapNet
Participants: 25 young scientists (potential applicants)
- 14 - 18 May, Argentina
Thematic workshop: Mycorrhiza
Partner Organisation: Catholic University of Cordoba
Participants: 10 grantees
- 2 - 12 May, Madagascar
Training workshop: Preparation of scientific papers
Thematic orientation: multidisciplinary
Partner Organisation: Institut Malagache de Recherches Appliquées
Participants: 63 young scientists (potential applicants)
- 16 June, Nepal
Training workshop: Revision of applications
Thematic orientation: waste management
Partner Organisation: University of Kathmandu
Participants: 15 young scientists
- 1 - 4 August, Ghana
Training workshop: Research design and proposal conceptualization
Thematic orientation: natural products
Partner Organisation: WANNPRES
Number of participants: 5 IFS Grantees and 50 young scientists.
- 4 - 6 August, Madagascar
Training workshop: Scientific methodology
Thematic orientation: biostatistics
Partner Organisation: Institut Malagache de Recherches Appliquées
Number of participants: 13 young scientists (potential applicants)
- 24 August - 1 September, North Korea
Training workshop: Research design and proposal conceptualization
Thematic orientation: multidisciplinary
Partner Organisation: NKAS
Number of participants: 30 young scientists (potential applicants)
- 29 August - 3 September, Italy
Thematic workshop: Food safety
Partner Organisation: Bologna university
Participants: 10 IFS Grantees
- 25 - 27 September Benin.
Training workshop: Research design and proposal conceptualization
Thematic orientation: sustainable sanitation
Partner Organisation: CREPA
Participants: 30 young scientists (potential applicants)
- 27 - 30 September Cambodia
Thematic workshop: Wetlands
Support to a team of IFS grantees
Partner Organisation: Royal University of Phnom Penh
Participants: 5 IFS grantees and 5 young scientists
- 27 - 28 September, Bangladesh
Training workshop: Scientific methodology, research design and proposal conceptualization
Thematic orientation: Integrated Water Resources Management and Sanitation
Partner Organisation: BCAS
Participants: 25 young scientists (potential applicants)

- 15 - 24 October, Cameroon
 Training workshop: Research design and proposal conceptualization
 Thematic orientation: multidisciplinary
 Partner Organisation: IFS Alumni Association in Cameroon
 Participants: 20 young scientists
- 16 - 22 October, Tanzania
 Thematic workshop: Pesticides
 Scientific methodology, research design and proposal conceptualization
 Partner Organisation: ANCAP
 Participants: 42 young scientists
- 25 - 29 October, Ghana
 Training workshop: Revision of applications, access to literature
 Thematic orientation: sustainable sanitation
 Partner Organisation: CREPA/IMWI
 Participants: 10 IFS grantees and 20 applicants
- 13 - 17 November Madagascar
 Training workshop: Research design and proposal conceptualization
 Thematic orientation: multidisciplinary
 Partner Organisation: Institut Malagache de Recherches Appliquées
 Participants: 20 young scientists (potential applicants)
- 20 - 24 November Kenya
 Thematic workshop: Molecular biology & abiotic stress
 Partner Organisation: BECA
 Participants: 30 young scientists (potential applicants)
- 4 - 6 December, Sri Lanka
 Training workshop: Scientific methodology, research design and proposal conceptualization
 Thematic orientation: Integrated Water Resources management & Sustainable Sanitation,
 Partner Organisation: Dhammika Dayawansa
 Participants: 20 young scientists (potential applicants) and 1 IFS grantee
- 10 - 15 December, Kenya
 Thematic workshop: Presentation of research findings
 Thematic orientation: multidisciplinary
 Partner Organisation: IUCEA
 Participants: 28 IFS/OPCW Grantees
- December (4 days), Bangladesh
 Training workshop: Equipment repair
 Thematic orientation: scientific equipment
 Partner Organisation: NITUB
 Participants: 5 IFS Grantees



Photo: Brian Porter

Maize growing at the experimental farm at Egerton University in Njoro, Kenya. IFS has given many grants to researchers in a wide range of disciplines at Egerton during the last 30 years.

Excerpt from the IFS Audited Financial Statement 2006



Administration Report

Information about the activities

For the year 2006, IFS provided support to approximately 2000 young scientists in developing countries in the form of research grants, travel grants to scientific meetings and conferences, feedback on research proposals including the failed applications, assistance in the purchasing of equipment and supplies, arrangement of workshops and training courses, network support and awards for scientific achievement. Two hundred sixty-three new research grants were awarded.

In addition, Programme Services included meetings of the Scientific Advisory Committees where research grant applications were reviewed and recommended for funding and staff costs and allocated general and administrative costs to provide this support. In total, Programme Services expense totalled SEK 39 496 346 (EUR 4 364 000), or 92% of total expense, for the year 2006.

The IFS granting process includes the receipt and registration of the research grant applications and the internal pre-screening of all proposals. Thereafter, applications are sent to internationally established scientific advisers and experts for comment (IFS has approximately 1000 advisers in its database). The proposals are then reviewed and prioritised at the meetings of the Scientific Advisory Committees (SAC), these meetings are held twice each year with the participation of approximately ninety advisers. Upon the recommendations of the SACs, the IFS Director approves the research grants for funding. Thereafter, the Secretariat draws up the contracts for signature by the grantee, head of institution and the IFS Director. During the research period (one to three years, renewable twice), IFS provides supporting services to the grantee.

The advisers and experts involved in the evaluations of the proposals do not receive remuneration for reviewing applications nor for participating in the SAC meetings. The estimated value of these contributed services is not reflected in this report.

Financial Result

Recommendation for the disposition of the surplus

The Board of Trustees and Director recommend that the accumulated surplus of

Balance, 1 January	1 911 797	(EUR 211 200)
Net Income less Expense for the Year	1 914 491	(EUR 211 500)
	<u>3 826 288</u>	(EUR 422 700)
is carried-forward to the following year	3 826 288	(EUR 422 700)

Of the resulting accumulated surplus of SEK 3 826 288 (EUR 422 700), SEK 500 000 (EUR 55 200) will be added to the Board Designated Fund for Contingencies, for items such as a new web-based system, as approved by the Board of Trustees meeting in Stockholm, 11-12 November 2006. The increase in the Board Designated Fund will be reflected in the Audited Financial Statement for 2007.

Accounting Principles

The evaluations and assessments are in accordance with generally accepted accounting principles in Sweden. The Financial Statement is in conformance with the laws on annual financial reports.

Accounting for Contributions

The IFS programme is funded annually by various donor organisations. Some of the contributions are unrestricted (Core Funds) and some contain restrictions on their use (Donor Restricted Funds).

Core Funds

Core funds are used for all aspects of the on-going operations of IFS. Core funds are recorded at the time of official notification by the Donor on the accrual basis of accounting.

Donor Restricted Funds

Donor restricted funds are used in accordance with the restrictions placed by the contributor. Donor restricted funds are recorded at the time of official notification by the Donor as deferred revenue. These deferred revenues are accounted for as self-balancing funds and the Restricted Contributions are recognized in the year in which the related expenses are incurred (utilized).

Contributions not received as of 31 December are accounted for as Donor Receivables.

Research Grants

Research grants are recorded as grant expense and as a liability at the time that the grants are approved by the Director.

Receivables

Receivables are recorded according to an assessment of the amounts that are anticipated to be received.

Foreign Currency

Receivables and liabilities in foreign currency are accounted for in Swedish Crowns at the exchange rate as of the date of the Balance Sheet.

Equipment, Furniture and Fixtures

Equipment, furniture and fixtures are recorded at cost and depreciated using the straight line method over a period of five years.

Leasing Agreements

Leasing agreements, irrespective of whether they are financial or operational, are accounted for as ordinary operational leases therefore the expenses are recorded as they are paid.

Statement of Income and Expense

(in thousands SEK) (SEK 1 = EUR 0.11)

	1 January 2006 - 31 December 2006	1 January 2005 - 31 December 2005
Programme Revenue		
Core Contributions	35 707	31 748
Donor Restricted Contributions	7 532	9 817
Grants Withdrawn	1 242	1 519
Other Programme Revenue	171	139
Total Programme Revenue	<u>44 652</u>	<u>43 223</u>
Programme Expense		
Programme Services	39 498	38 416
Fundraising and Partnership Building	1 769	2 355
Management and General	1 750	1 760
Total Programme Expense	<u>43 017</u>	<u>42 531</u>
Programme Income less Expense	<u>1 635</u>	<u>692</u>
Interest Income and Expense		
Interest Income	280	188
Interest Expense	1	
Interest Income less Expense	<u>279</u>	<u>188</u>
Net Income less Expense	<u>1 914</u>	<u>880</u>

Balance Sheet

(in thousands SEK) (SEK 1 = EUR 0.11)

	31 December 2006	31 December 2005
Assets		
<i>Fixed Assets</i>		
Tangible Assets		
Equipment, Furniture and Fixtures	434	648
Financial Assets		
Long-term Donor Receivables	999	1 696
Total Fixed Assets	<u>1 433</u>	<u>2 344</u>
<i>Current Assets</i>		
Current Receivables		
Donor Receivables	2 667	6 973
Other Current Receivables	78	56
Prepaid Expense and Accrued Income	1 191	688
Total Current Receivables	<u>3 936</u>	<u>7 717</u>
Short-term Investments	17 904	10 962
Cash and Bank Balances	4 801	8 961
Total Current Assets	<u>26 641</u>	<u>27 640</u>
Total Assets	<u>28 074</u>	<u>29 984</u>
Equity and Liabilities		
<i>Equity</i>		
Restricted Equity		
Board Designated Fund for Contingencies	2 000	2 000
Total Restricted Equity	<u>2 000</u>	<u>2 000</u>
Unrestricted Equity		
Balance, 1 January	1 912	1 032
Net Income less Expense for the Year	1 914	880
Total Unrestricted Equity	<u>3 826</u>	<u>1 912</u>
Total Equity	<u>5 826</u>	<u>3 912</u>
<i>Current Liabilities</i>		
Research Grants Payable	11 859	14 322
Deferred Restricted Contributions	6 307	8 987
Accounts Payable	2 133	1 466
Other Current Liabilities	365	305
Accrued Expense and Prepaid Income	1 584	992
Total Current Liabilities	<u>22 248</u>	<u>26 072</u>
Total Net Assets and Liabilities	<u>28 074</u>	<u>29 984</u>
Pledged Assets: liquid assets - provision for credit cards	400	400
Contingent Liabilities	None	None

IFS Board of Trustees



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Dr Cecilia Öman

Scientific Programme Coordinator,
Water Resources

IFS Affiliated Organisations 2006



National Organisations

Argentina

- Academia Nacional de Ciencias Exactas, Físicas y Naturales (ANCEFN)
- Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)

Australia

- Australian Academy of Science (AAS)

Austria

- Fonds zur Förderung der Wissenschaftlichen Forschung (FWF)
- Österreichische Akademie der Wissenschaften (ÖAW)

Bangladesh

- Bangladesh Council of Scientific and Industrial Research (BCSIR)

Belgium

- Académie Royale des Sciences d'Outre-Mer (ARSOM)
- Académie Royale des Sciences des Lettres et des Beaux-Arts de Belgique
- Koninklijke Academie voor Wetenschappen, Letteren en Schone Kunsten van België (KVAB)

Bolivia

- Academia Nacional de Ciencias de Bolivia (ANCB)

Brazil

- Academia Brasileira de Ciências (ABC)
- Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPQ)
- Fundação Oswaldo Cruz (FIOCRUZ)

Burkina Faso

- Ministère des Enseignements Secondaire, Supérieur et de la Recherche Scientifique (MESSER)

Cameroon

- Ministry of Scientific and Technical Research

Central African Republic

- l'Enseignement Supérieur et de la Recherche Scientifique

Chad

- Direction de la Recherche Scientifique et Technique, MESRS

Chile

- Academia Chilena de Ciencias
- Comisión Nacional de Investigación Científica y Tecnológica (CONICYT)

China

- Chinese Academy of Sciences (CAS)

Colombia

- Academia Colombiana de Ciencias Exactas, Físicas y Naturales (ACCEFYN)
- Centro para la Investigación en Sistemas Sostenibles de Producción Agropecuaria (CIPAV)
- Instituto Colombiano para el Desarrollo de la Ciencia y Tecnología (COLCIENCIAS)

Congo (Brazzaville)

- Direction Générale de la Recherche Scientifique et Technique, MENRST

Costa Rica

- Consejo Nacional de Investigaciones Científicas y Tecnológicas (CONICIT)

Côte d'Ivoire

- Académie des Sciences, des Arts, des Cultures d'Afrique et des Diaporas africaines

Cuba

- Academia de Ciencias de Cuba (ACC)
- Ministry for Foreign Investment and Economic Cooperation

Denmark

- Akademiet for de Tekniske Videnskaber (ATV)
- Det Kongelige Danske Videnskaberne Selskab (RDVS)

Ecuador

- Fundación para la Ciencia y la Tecnología (FUNDACYT)

Egypt

- Academy of Scientific Research and Technology (ASRT)

El Salvador

- Consejo Nacional de Ciencia y Tecnología (CONACYT)

Ethiopia

- Ethiopian Science and Technology Commission (ESTC)

Finland

- Delegation of the Finnish Academies of Science and Letters

France

- Académie des Sciences
- Centre de Coopération Inter-nationale en Recherche Agronomique pour le Développement (CIRAD)
- Institut National de la Recherche Agronomique (INRA)
- Institut de Recherche pour le Développement (IRD)

Germany

- Deutsche Forschungsgemeinschaft (DFG)

Ghana

- Council for Scientific and Industrial Research (CSIR)

Guinea

- Direction Nationale de la Recherche Scientifique et Technique

Guinea-Bissau

- Instituto Nacional de Estudos e Pesquisa (INEP)

Guyana

- Institute of Applied Science and Technology

Honduras

- Consejo Hondureño de Ciencia y Tecnología (COHCIT)

India

- Indian National Science Academy (INSA)

Indonesia

- Lembaga Ilmu Pengetahuan Indonesia (LIPI)

Israel

- The Israel Academy of Sciences and Humanities

Jamaica

- Scientific Research Council (SRC)

Jordan

- Royal Scientific Society (RSS)

Kenya

- Kenya Agricultural Research Institute (KARI)
- Kenya National Academy of Sciences (KNAS)

Korea DPR (North)

- Academy of Sciences of DPR Korea

Korea R (South)

- National Academy of Sciences (NAS)

Kuwait

- Kuwait Institute for Scientific Research (KISR)

Latvia

- Latvian Academy of Sciences (LAS)

Lesotho

- The National University of Lesotho (NUL)

Liberia

- University of Liberia (UL)

Madagascar

- Académie National Malgache

Malawi

- National Research Council of Malawi (NRCM)

Malaysia

- Malaysian Scientific Association (MSA)
- Ministry of Science, Technology and Innovation

Mali

- Centre National de la Recherche Scientifique et Technologique (CNRST)
- Comité National de la Recherche Agricole (CNRA)

Mexico

- Consejo Nacional de Ciencia y Tecnología (CONACYT)

Mongolia

- Mongolian Academy of Sciences

Morocco

- Centre National de Coordination et de Planification de la Recherche Scientifique et Technique (CNR)
- Institut Agronomique et Vétérinaire Hassan II

Mozambique

- Universidade Eduardo Mondlane (UEM)
- The Scientific Research Association of Mozambique (AICIMO)

Nepal

- Royal Nepal Academy of Science and Technology (RONAST)

Netherlands

- Koninklijke Nederlandse Akademie van Wetenschappen (KNAW)

Niger

- Université Abdou Moumouni

Nigeria

- Federal Ministry of Science and Technology (FMST)
- The Nigerian Academy of Science (NAS)

Norway

- Det Norske Videnskaps-Akademi (DNVA)

Pakistan

- Pakistan Council for Science and Technology (PCST)

Panama

- Secretaria Nacional de Ciencia y Tecnología e Innovación (SENACYT)
- Universidad de Panamá

Papua New Guinea

- The University of Papua New Guinea

Peru

- Consejo Nacional de Ciencia y Tecnología (CONCYTEC)

Philippines

- National Research Council of the Philippines (NRCP)

Poland

- Polish Academy of Sciences (PAS)

Saudi Arabia

- King Abdulaziz City for Science and Technology (KACST)

Senegal

- Délégation aux Affaires Scientifiques et Techniques, MRST

Seychelles

- Seychelles Bureau of Standards (SBS)

Sierra Leone

- Institute of Agricultural Research (IAR)

South Africa

- National Research Foundation (NRF)

Sri Lanka

- National Science Foundation (NSF)

Sudan

- National Centre for Research (NCR)

Sweden

- Ingenjörsvetenskapsakademien (IVA)
- Kungliga Skogs- och Lantbruksakademien (KSLA)
- Kungliga Vetenskapsakademien (KVA)

Switzerland

- Council of the Swiss Scientific Academies (CASS)
- Swiss National Science Foundation (SNSF)

Tanzania

- Tanzania Commission for Science and Technology (COSTECH)

Thailand

- National Research Council of Thailand (NRC)
- Thailand Research Fund (TRF)

Tunisia

- Direction Générale de la Recherche Scientifique et Technique, MES

Uganda

- National Agricultural Research Organisation (NARO)
- Uganda National Council for Science and Technology (UNCST)

United Kingdom

- The Royal Society
- Natural Resources Institute (NRI)

Uruguay

- Programa de Desarrollo de las Ciencias Básicas (PEDECIBA)

USA

- American Academy of Arts and Sciences (AAAS)
- National Academy of Sciences (NAS)
- New York Academy of Sciences (NYAS)

Venezuela

- The Ministry of Popular Power for Science and Technology

Viet Nam

- Ministry for Science and Technology (MOST)

Zambia

- National Institute for Scientific and Industrial Research (NISIR)

Zimbabwe

- Scientific and Industrial Research and Development Centre (SIRDC)
- University of Zimbabwe

Regional Organisations**Africa**

- Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)

- Association of African Universities (AAU)
- Centre Regional pour l'Eau Potable et l'Assainissement à faible coût (CREPA)
- Institut du Sahel (INSAH)
- The African Academy of Sciences (AAS)
- West and Central African Council for Agricultural Research and Development (WECARD/CORAF)
- Western Indian Ocean Marine Science Association (WIOMSA)

Latin America and the Caribbean

- Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)
- The Caribbean Academy of Sciences (CAS)
- Caribbean Agricultural Research and Development Institute (CARDI)

International Organisations

- BioNET-INTERNATIONAL (The Global Network for Taxonomy)
- International Organization for Chemical Sciences in Development (IOCD)
- International Union of Forest Research Organizations (IUFRO)
- The Academy of Sciences for the Developing World (TWAS)

Consultative Group on International Agricultural Research (CGIAR):

- CGIAR Secretariat
- Bioversity International
- Centro Internacional de Agricultura Tropical (CIAT)
- Centre for International Forestry Research (CIFOR)
- International Centre for Agricultural Research in the Dry Areas (ICARDA)
- International Centre for Research in Agroforestry (ICRAF)
- International Water Management Institute (IWMI)
- World Fish Center

French Summary

Un regard sur l'année 2005-2006



Ce rapport biennal concerne les années 2005 et 2006. Durant cette période importante pour l'IFS une nouvelle stratégie a été développée et incorporée dans le plan quinquennal pour 2006-2010.

Dans une première partie, ce rapport présente les aspects principaux du plan quinquennal établi à partir des consultations avec nos donateurs et nos partenaires d'Afrique, d'Asie et d'Amérique du Sud, qui font ressortir un consensus, à savoir que l'IFS doit:

- 1 concentrer ses activités sur les jeunes chercheurs des pays à faible revenu et à infrastructure de recherche vulnérable (pays prioritaires pour l'IFS),
- 2 compléter l'attribution des bourses par l'organisation de tutorat et d'ateliers de formation à la recherche (conceptualisation de projets de recherche, accès à la littérature, analyse statistique et présentation des résultats, rédaction d'articles scientifiques...) et
- 3 mettre en place de nouvelles formes de partenariat pour développer ces activités.

En 2005, 240 nouvelles bourses ont été attribuées, 263 bourses en 2006 pour plus de 1300 dossiers reçus. 70% des bourses ont concerné des jeunes chercheurs des pays prioritaires de l'IFS. L'augmentation du nombre de bourses attribuées est à relier à une visibilité croissante de l'IFS dans ces pays et à un financement accru par nos donateurs. Toutefois le nombre de projets recommandés par les experts extérieurs reste encore supérieur au nombre de bourses que l'IFS peut financer.

En 2005-2006 le nombre d'ateliers organisés par l'IFS a aussi considérablement augmenté par rapport aux années précédentes: 12 ateliers et 300 participants en 2005 et 23 ateliers et 500 participants en 2006 (en moyenne 200 participants les années précédentes). Tous ces ateliers ont été mis en place en collaboration avec des partenaires nationaux ou régionaux.

Durant la dernière décennie, de nombreux pays ont mis en place une infrastructure de recherche efficace ainsi que des mécanismes de formation et de financement pour leurs jeunes chercheurs. Les anciens boursiers de l'IFS y occupent maintenant des positions stratégiques dans leurs systèmes de recherche. Ces pays maintenant non éligibles, constituent aujourd'hui des partenaires privilégiés pour l'IFS et les anciens boursiers une pépinière de partenaires à impliquer dans les nouvelles activités de formation de l'IFS. Un premier résultat concret de cette situation est la décision du CONICET argentin de mobiliser ses membres comme tuteurs des jeunes boursiers de l'IFS des pays les moins avancés d'Amérique latine. Nous espérons impliquer d'autres pays dans une démarche similaire au cours du plan quinquennal.

Enfin pour développer plus efficacement certaines de ses activités, l'IFS explore la possibilité d'établir une ou des bases régionales avec des organisations partenaires.

Les autres points développés dans ce rapport sont

- La présentation d'un exemple de partenariat fructueux: la collaboration entre l'OCPW et l'IFS qui a permis le financement de plus de 200 boursiers et la mise en place de plusieurs réseaux et ateliers dont un en 2006.
- La présentation de trois boursiers d'Afrique, d'Asie et d'Amérique du Sud sélectionnés pour présenter leurs travaux lors des ateliers de concertation régionaux qui ont contribué à l'élaboration du plan quinquennal.
- Un bilan des études d'impact de l'IFS (MESIA studies) et les résultats de l'étude la plus récente (2005-2006) portant sur les bourses attribuées dans le domaine des sciences de l'aliment.
- La liste des prix attribués par l'IFS à ses boursiers en 2005-2006, le bilan financier, les listes des membres du Conseil d'Administration, du personnel de l'IFS, et des Organisations Affiliées.

IFS Mission Statement



The need

Scientific research provides an important input for sustainable management of biological resources. Scientific knowledge is central for rural, urban, industrial, and policy development, which will lead to improvement of people's livelihoods.

The mission

IFS shall contribute towards strengthening the capacity of developing countries to conduct relevant and high quality research on the sustainable management of biological resources. This will involve the study of physical, chemical, and biological processes, as well as relevant social and economic aspects, important in the conservation, production, and renewable utilisation of the natural resources base.

The strategy

IFS shall identify, through a careful selection process, promising young scientists from developing countries with potential to become future lead scientists and science leaders. They will receive support in their early careers to pursue high quality research in developing countries on problems relevant to the mission, which will help them to become established and recognised nationally and internationally. Additional supporting services will be provided to researchers in scientifically weaker institutions and countries.

IFS shall act in collaboration with Affiliated Organisations and other national, regional, and international institutions utilising the complementary strengths of such partnerships.



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FOUNDATION FOR
SCIENCE**

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