



APAARI

NEWSLETTER



VOL. 7 No. 2

DECEMBER 1998

ISSN: 0858-6063

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EDITORIAL

The National Agricultural Research Systems (NARS), which constitute the backbone of regional research and development, are growing and evolving, to meet the challenges of poverty alleviation, food and nutritional security, and natural resource conservation and management. Among the various research management mechanisms to strengthen NARS research and development, as discussed in the Expert Consultation at Suwon, Korea, 13-15 October 1998, strategic planning assumes great importance. Priority setting in research needs to be linked with organizational and financial management, more decentralisation, well co-ordinated linkages and involvement in research programme planning/governance of different stakeholders including private sector, NGOs and farmers. Future research direction may be demand driven towards market based agriculture and such research shifts are to be balanced to meet the food needs of the poor sector. An integrated, interdisciplinary approach using new sciences/ relevant disciplines to boost agricultural production and productivity is envisaged, with much diverse partnership in extension network for technology transfer to the user sector at grassroots level.

Strategic planning would require both long-term (10-20 years) and mid-term (5-10 years) strategy, the short-term plan is to be a rolling plan of annual operational plan flexible to include revised priorities and new information. Commensurate to national needs, there is need of 1-2% agricultural GDP allocated to research. Also, the strategy would require that in the changed scenario of agricultural R&D involving more investment, new technologies, infrastructure and manpower, NARS have more efficient and effective science managers possessing adequate operational and management skills in planning and execution of research and making it more targeted and accountable. Also, Partnership with Private Sector, NGOs and Farmers as a new NARI to NARS concept will require new management skills and change in the mindset of research managers.

APAARI thus has an onerous task to co-ordinate NARS activities as a facilitator and a catalyst, to strengthen their capacity and capability, and to assist in their strategic planning for research management. This could be facilitated through NARS-NARS partnership and collaboration with ARIs. With APAARI's greater recognition at regional and global level, its representation in GFAR, CGIAR, NARS-SC, FAO, IFAD, World Bank, ADB, UNDP and other such organizations/fora will mobilise support of policy makers and donors. Also, increased participation of such organizations in APAARI regional meetings/consultations will provide further support to APAARI activities. We are looking forward to such a dialogue in the year 2000, when APAARI will be discussing its perspective plan for 2020.

Editors

FIFTH GENERAL ASSEMBLY OF APAARI AND THE EXPERT CONSULTATION ON RESEARCH MANAGEMENT MECHANISMS OF NATIONAL AGRICULTURAL RESEARCH SYSTEMS (NARS)

Suwon, Republic of Korea, 13–15 October, 1998

The Fifth General Assembly of the Asia-Pacific Association of Agricultural Research Institutions (APAARI) was held at Suwon, Republic of Korea from 13-15 October 1998 in conjunction with the Expert Consultation on Research Management Mechanisms of NARS. It was cosponsored by ACIAR, ISNAR and FAO. Two more meetings were also organised with it, namely the Fisheries Group meeting with ICLARM on 11-12 October 1998 and the CORRA (Council for Partnership on Rice Research in Asia) second annual meeting on 16 October 1998.

The meeting was chaired by Dr. M.A. Akbar, Chairman, APAARI Executive Committee and co-chaired by Dr. Nobuyoshi Maeno, Vice-Chairman. Dr. Kim Kang-Kwun, Administrator, Rural Development Administration, Republic of Korea was the Chief Guest at the Inaugural Session. Dr. R.S. Paroda, Executive Secretary, APAARI welcomed and thanked all the participants and dignitaries and expressed APAARI's gratitude to the Rural Development Administration, Republic of Korea, for hosting the meeting. He pointed out to the collaborative role of APAARI in promoting agricultural research and development in the NARS of this region. He referred to the changing scenario of R&D in agriculture and problems faced by NARS in research execution and management and stressed that the Expert Consultation will discuss elaborately on the issues, approaches and possible remedial measures to strengthen NARS of this region.

The General Assembly and the Expert Consultation was attended by 13 NARS members of APAARI, namely Australia, Fiji, India, Iran, Japan, Malaysia, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Sri Lanka, Thailand and Western Samoa. Other NARS present included Myanmar, Taiwan and Vietnam. International Organizations included IARCs which are associate members such as ICRISAT, IRRI, IPGRI, ISNAR, ICARDA, ICLARM, CIP, and CIMMYT; AVRDC, FAO and the Global Forum on Agricultural Research (GFAR) with representation of both GF-SC and NARS-SC. In all 45 participants attended this meeting, including 12 from the Fisheries and Aquatic Group. Summary of proceedings is presented.

EXPERT CONSULTATION ON RESEARCH MANAGEMENT MECHANISMS OF NARS

The deliberations of the Expert Consultation on Research Management Mechanisms of the National Agricultural Research Systems (NARS) was held in four Technical Sessions: Session-I dealt with International Initiatives; Session-II with National Initiatives; Session-III with Network Initiatives; and Session-IV had Group discussions

on addressing some of the challenges faced by NARS such as on setting priority directions, sharing management experiences, human resource development and impact assessment and evaluation. The Plenary Session was Chaired by Dr. R.S. Paroda, facilitated by Dr. B.P. del Rosario and came out with draft recommendations.

Session I : Managing NARS – International Initiatives

This session had presentations on diverse approaches to make NARS stronger and effective. Dr. Stein W. Bie highlighted ISNAR experience and the need to assist NARS in their restructuring. Dr. Alain Dervier and Mr. Christian Hoste dealt with the functions of the Global Forum on Agricultural Research (GFAR) and activities of the GFAR-SC and NARS-SC respectively. It was stressed that GFAR will act as an apex international mechanism to effectively link regional and sub-regional NARS and organizations with relevant world bodies for effective collaboration, priority setting, funding, sharing of experiences and achieving partnerships and cooperation. The NARS-SC will play a major role in this context, to strengthen regional and sub-regional fora enabling NARS to have a stronger collective voice in designing research agenda, facilitate partnership and address to NARS needs and priorities such as management of genetic resources, natural resources, biotechnology and biosafety, access to information technology and intellectual property. Concern on pivotal role of APAARI to foster linkages with GFAR/GF-SC and NARS-SC to strengthen NARS activities was expressed. Dr. Stein W. Bie pointed out to the role of ISNAR in developing APAARI Web-site (homepage), which will facilitate access to APAARI members in receiving, providing and sharing worldwide information and strengthening of these information technology needs including creation of E-mail discussions through ADB support, in collaboration with APAARI. Dr. Meryl J. Williams presented the activities of the Group on Fisheries and Aquatic Research (GoFAR) in strengthening collaborative activities in this discipline in the Asia-Pacific in collaboration with APAARI, and briefed on the deliberation of the meeting jointly organised by ICLARM and APAARI on 11-12 October 1998.

Session II : Managing National Initiatives : This session dealt with two case studies on NARS. Dr. R.S. Paroda presented the Secretariat Paper on "Major Management Issues Facing NARS – A Case Study of ICAR". This was taken as an example of a well developed and well structured NARS. The presentation highlighted the operating research and management system and presented a holistic view of R&D, and current and future directions. Another paper on similar lines was presented

by Dr. Beatriz P. del Rosario on a NARS case study of the Philippines where agriculture and forestry are managed by a single organization, the Philippine Council of Agriculture, Forestry and Natural Resources Research and Development (PCARRD). It was evident that most of the NARS are facing second generation problems of agricultural research management such as priority setting mechanisms, organizational and financial management, decentralization, develop effective linkages with public sector institutions, private sector, NGOs, farmers and other stakeholders in research governance and evaluation. NARS infrastructure needs to be modernized and competent human resource is required to manage both research and management. Increased research investment and accountability was necessary, correlated with the benefit accruing from research.

Session III : Network Initiatives : This session mainly highlighted the role of crop/commodity and regional PGR networks as examples of successfully operating activities in the region. The presentations of Dr. S.K. Vasal, Dr. C.L.L. Gowda and Dr. Ken Riley dealt with the success of Tropical Asia Maize Network (TAMNET), the Cereals and Legumes Asian Network (CLAN) and Plant Genetic Resources – crop and sub-regional networks respectively. More collaboration with APAARI was stressed for these and other networks such as on Information Networking and on Group on Fisheries and Aquatic Research (GoFAR). Among others, APAARI is already associated with activities of the Underutilized Tropical Fruits Asia Network (UTFANET). Such activities could be better facilitated through MoUs.

Session IV : Group Discussion on Addressing the Challenges : The Session had inputs from four sub-groups that dealt with specific topics:

1. **Setting Strategic Directions :** The need for imparting training in strategic planning processes and improving capacity of NARS was recognized, to be facilitated by APAARI. Also planning should adequately combine long-term perspective (10-20 yrs) with mid-term plans (5-10 yrs), with effective participation of stakeholders.
2. **Human Resource Development :** The need to know better the HR potential available in the region was strongly felt. Based on gaps and emerging needs, both national and sub-regional and regional HRD plans are required to be developed, and HR database need to be established by APAARI for use of members. A collaborative role of APAARI to assemble information on training plans of both IARCs and NARS and coordinate training needs through APAARI assisted by NARS-SC Secretariat was highlighted. These

activities will also include training in Research Management, and seek support of ISNAR, NAARM/ ICAR for distant learning methods and of IARCs for access to training materials. ISNAR was requested to develop its training activities in research organization and management.

- 3 **Sharing of Management Experiences :** The heterogeneity in structure and management of small and large NARS was recognized. It was however felt that a single nodal ministry handling research and education in agriculture together, with a measure of autonomy, could coordinate this activity more effectively with other ministries and stakeholders including the private sector. APAARI's assistance was solicited in upgrading the managerial skills of NARS Senior Scientists for efficient research and financial management, so that priorities are suitably identified and funding for research allocation and investment taken care of.
- 4 **Impact Assessment and Evaluation :** Transfer of technology was considered as the most crucial issue facing NARS in the region. To attain this, a stronger need was felt for an effective coordination between research and development organizations and linkages between the scientists, and the farmers by forging a continuum of technology generation, assessment-refinement and transfer, using newer options such as information technology, distance education and dissemination of published information with improved package of technology. Also, training of farmers and involvement of private sector, and NGOs was considered important for faster dissemination of technologies at farmers' fields. For technology transfer, APAARI success stories could be translated into local languages and published for their faster adoption by NARS users, particularly the farming communities.



Participants of the Fifth General Assembly and Expert Consultation Meeting, APAARI

THE GENERAL ASSEMBLY MEETING AND OVERVIEW OF APAARI ACTIVITIES 1998

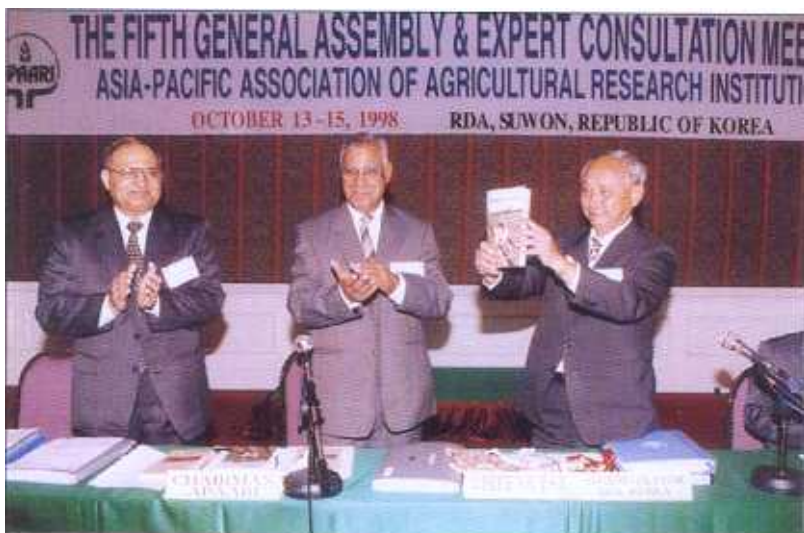
Dr. R.S. Paroda, Executive Secretary, briefed the members and other participants on the action taken on various activities by APAARI Secretariat, since the last meeting of the Executive Committee held at Tehran, Iran, 19-21 October 1997.

I. APAARI Publications

- **Newsletter:** Two issues were brought out i.e. December 1997 and June 1998. These were widely circulated among members and other interested organizations, scientists and policy makers. The next issue is under process, to be printed soon i.e. December 1998.
- **Success Stories:** Since the last meeting, three Success Stories have been published namely:
 - Agro-Tourism in Australia
 - Direct-Seeded Rice under Irrigated Conditions in Malaysia
 - Groundnut in China

The success story on Agro-Tourism has been widely circulated and the other two released during this meeting, are being distributed by the APAARI Secretariat at Delhi. The success story on Oilseed Research and Development in India is being processed for printing. Further suggestions on potential success stories were invited such as on natural resources management. Dr. Paroda stressed on the importance of dissemination of such information within NARS for technology transfer citing examples of success stories published on hybrid rice and baby corn, and on orchids in Thailand. The need to identify topics and authors was suggested through a small group.

- **Proceedings of the Fourth Executive Committee :** The Proceedings of the Fourth Executive Committee Meeting and the Expert Consultation on Management



Dr. Kim Kang-Kwun, releasing the "Success Stories"

and Strengthening of Regional Research Networks in the Asia-Pacific Region, organised by APAARI at Tehran, Iran, 19-21 October 1997 have been published and widely circulated. NARS' research needs to be promoted through networks.

- **Status Report on Genetic Resources in the Asia-Pacific Region :** The Status Report on Genetic Resources Conservation, Evaluation and Utilization of Crops of Importance in the Asia-Pacific Region got prepared by APAARI at the request of FAO is being edited for printing.

Dr. Paroda requested members to suggest more organizations, fora etc, to be kept on APAARI's mailing list. This was necessary to address to more stakeholders, matters of mutual concern. He also requested member NARS to circulate their reports, publications etc. and benefit from each other through information dissemination.

II. Information Networking

APAARI thanked Dr. Stein W. Bie and his staff for their collaboration in establishing a home page for APAARI on the internet. This will facilitate inter-institutional communication at a faster rate. Need for a regional database was stressed. These activities will catch up with the ADB proposal under process jointly with ISNAR/CABI.

III. ICRISAT-ICARDA-APAARI proposal to support CLAN

Dr. Paroda informed on the progress of the revised proposal submitted to IFAD, and the encouraging response received from IFAD to fund the project.

IV. Collaboration with ICLARM

ICLARM and APAARI jointly organised Fisheries and Aquatic Subgroup meeting with ACIAR/APAARI/AUSAID's support on 11-12 October 1998 attended by participants of 13 countries of the Asia-Pacific region. The meeting agreed to request APAARI to form a Group of Fisheries and Aquatic Research (GoFAR) to strengthen collaboration in this important field.

V. Collaboration with IPGRI

APAARI and IPGRI have jointly finalized an MoU to strengthen collaborative activities on PGR networking for the benefit of NARS in the region. Dr. R.S. Paroda, Executive Secretary, APAARI signed the MoU, endorsed by Dr. Ken Riley, Regional Director, IPGRI Office for Asia, the Pacific and Oceania, Serdang, Malaysia representing IPGRI.

VI. Collaboration with ASPNET

The General Assembly was informed about the efforts put forth by Dr. William D. Dar for formulating an MoU with ASPNET.

VII. Collaboration with GFAR

Dr. R.S. Paroda as Chairperson of both GF-SC and NARS-SC briefed on the progress on setting up of this Global Forum with GFAR-SC hosted by ESDAR Group of the World Bank, Washington DC and the NARS-SC Secretariat hosted by SDR Division in FAO Rome, technically supported by ISNAR. Pivotal role of APAARI with this initiative was stressed as has already been highlighted under Session II deliberations of the Expert Consultation. Dr. R.S. Paroda informed the members that the Netherlands Government has announced an APO position for APAARI Secretariat.

VIII. APAARI's representation in regional activities

It was pointed out that APAARI supported participation of its members in several regional activities, as listed below:

- i) APAARI was represented through Dr. Z. Karim, Executive Chairman, BARC, Bangladesh in the workshop on Commodity Development in Asia-Pacific region organised by the Common Fund for Commodities, 28 September–1 October 1998 in Dhaka.
- ii) Dr. William D. Dar has been nominated to represent APAARI on INIBAP-PROMUSA Steering Committee.
- iii) APAARI extended partial support to UTFANET in organising its Fourth Steering Committee Meeting held at Bangkok, 23-24 April 1998. Dr. Nazmul Haq, Coordinator UTFANET has been requested to finalise/follow-up on a proposal for IFAD funding.

IX. APAARI Secretariat

Several matters came up for discussion:

- 1) The members were informed that the ACIAR has provided support for strengthening APAARI Secretariat. The TORs for a Technical Officer – a regionally recruited staff at the FAO Bangkok were discussed and action proposed for early recruitment.
- 2) The General Assembly felt concerned about increasing its membership and was informed that China, Indonesia, Vietnam and Laos have been approached to become full time members. The New Zealand and Bhutan have also been approached and the Secretariat will negotiate with Myanmar, Taiwan, the South Pacific Commission, and also approach some of the GoFAR members to become APAARI members.



Dr. Ken Riley and Dr. R.S. Paroda signing the MoU

- 3) The General Assembly discussed the budget and the members supported the proposed budget for 1999-2000 and expressed great satisfaction on the publications–Newsletter, Success Stories, Status Reports, etc. brought out by the APAARI Secretariat.

X. Future Meetings

The members agreed to hold the next Expert Consultation meeting at Islamabad, Pakistan in 1999. The Sixth General Assembly will be held in Bangkok, Thailand in the year 2000, when APAARI perspective plan 2020 may be discussed.

XI. New APAARI Executive Committee

The following office bearers were elected to the Executive Committee for 1999-2000

Chairman	: Mr. Ian Bevege Australia
Vice-Chairman	: Dr. Ananta Doladom Thailand
Members	: Dr. Seong-Hee Lee Korea Dr. Kausar Abdulla Malik Pakistan Dr. R.D. Ghodake Papua New Guinea Dr. D. Kirtisinghe Sri Lanka
Executive Secretary	: Dr. R.S. Paroda India

VEGETABLE IMPROVEMENT IN BANGLADESH

- A SHORT SUCCESS STORY

Farmers of Bangladesh produce a wide range of vegetables on homestead and farmland under different agro-ecological settings. Some of the major constraints of the vegetable cultivation are lack of improved varieties, poor quality seeds and stress-summer environment. Bangladesh Agricultural Research Institute (BARI) attaches due importance on research relating to varietal development, quality seed production and off-season vegetable cultivation. The research programme had been strengthened with the creation of a Vegetable Division under Horticulture Research Centre of BARI. BARI has released 27 varieties of different vegetables which include yard long bean (1), leafy vegetables (6-kangkong, cabbage, Chinese cabbage, red amaranth, chinasak and batisak), peas (2), country bean (2), bush bean (1), radish (2), tomato (5), eggplant (1), bottle gourd (1), okra (1), onion (1), coriander (1), two hybrids of eggplant and one watermelon. Further, hybrids of tomato (2), OP variety of carotene rich tomato (2), eggplant (2), cabbage (1), cauliflower (2) and radish have been identified for release.



BARI Dherosh-1, A yellow vein mosaic virus resistant okra variety

VARIETAL DEVELOPMENT

Radish: Radish cultivation was primarily dependent on the imported seed. The sustainability of BARI variety Tasakistan has reduced the import of the radish seeds because of its high yield and potential of good quality seed production. The variety produces edible roots 75-80 t/ha in 45-50 days. The roots remain edible without pithiness upto 75 days. This variety has become popular and covered almost 50% of 21,000 hectares under radish cultivation during *rabi*/winter season 1996-97. BADC and private seed companies produced 60,000 kg seeds in 1996-97 for marketing.

Tomato : Ratan is a popular winter tomato variety. It is tolerant to bacterial wilt. The fruits are red, firm, round and their yield ranges 85-90 t/ha. It has performed exceedingly well in different South Asian countries under SAVERNET Yield Trial.

Okra : BARI Dherosh-1, a yellow vein mosaic virus resistant variety, has revolutionised the okra cultivation in Bangladesh. This variety produces 15-18 t/ha fruits of 15-20 cm length, each plant bearing about 25-30 fruits. Foreign and local varieties having no tolerance to YVMV, have been replaced. The seed production of this variety during 1997 had been to the tune of 134 tonnes by different seed companies and BADC.

SUMMER VEGETABLE PRODUCTION

Vegetables like Gimakalmi (kangkong), red amaranth and tomato are becoming popular in summer. Gimakalmi (*Ipomoea* sp.) is a quick growing (30-40 days) and high yielding leafy vegetable.

Red amaranth is characterised by pink coloured leaves and stem has less fibre and is rich in carotene content. It is grown round the year as a short duration vegetable (25-30 days). This has almost replaced the local varieties. Cultivation of tomato in summer season is no more a dream but a reality with the development of heat tolerant varieties/hybrids cultivation under poly-tunnel. Further, these heat tolerant varieties have better adaptability for growing in all seasons which eventually benefits the farmers and consumers.

SEED PRODUCTION

Seed production of cabbage was not possible in the past due to climatic barrier in Bangladesh. The variety Provati and the advanced line CE001 (awaiting for release), both are producing seeds in winter season as annual crops. These are capable of producing 500-600 kg seeds per hectare. The special techniques of cutting heads have been developed to facilitate the emergence of the flower stalk. The seedlings obtained from these seeds can produce compact heads (2.0-2.5 kg) within 65-70 days.

The radish seed production per unit area of Tasakistan has been improved with the development of shoot and root method (1/2 shoots and 1/4 roots cut). The seed yield could be as high as 2.0 t/ha by planting roots in the first fortnight of November at a spacing of 30 x 15 cm.

Vegetable production during 1991-92 to 1995-96 has increased from 1.09-1.62 million tonnes (Bangladesh Bureau of Statistics, 1997). This increment is mainly for high production per unit area. Release of high yielding varieties, liberal seed policy, organised seed production and marketing, as well as the technology transfer by GOs and NGOs has contributed towards increasing vegetable production. The policy of the Government to strengthen research, extension and seed production programme will further improve the vegetable production scenario in Bangladesh.

[Contributor: Dr. S.M. Monowar Hossain, Chief Scientific Officer & Head, Olericulture Division, Horticulture Research Centre, BARI, Gazipur, Bangladesh]

THE GLOBAL FORUM ON AGRICULTURAL RESEARCH (GFAR)

ESTABLISHMENT OF GFAR

The Global Forum on Agricultural Research (GFAR) was established on 31 October 1996, as a global framework or collective endeavour to facilitate exchange of information, access to knowledge, co-operation and research partnerships among the various stakeholders related to agricultural research and sustainable development. In doing so, it seeks to strengthen National Agricultural Research Systems (NARS) and regional and sub-regional fora and encourage the identification and development of collaborative research projects in areas of common interest.

There are three fundamental beliefs that are at the origin of the Global Forum:

- Science based vision of the future and of the role knowledge plays in contemporary societies.
- Recent trends clearly point out that knowledge generation and utilization is increasingly based on transitional research systems and networks, that build upon research partnerships and strategic alliances among the key stakeholders and actors involved in this process.
- It is of critical importance to avoid the dangers of potential inquiries between and within countries, that could emerge from increasing technology gaps and exclusion forces based on the capacity to access and use of technology, and thus to harness the power of science.

OBJECTIVES AND THE PLAN OF ACTION

The objectives and the Plan of Action of the GFAR is analysed in more detail in the document Global Forum on Agricultural Research : Plan of Action 1998-2000.

At the first Global Forum on Agricultural Research (GFAR) held in Washington DC, a Global Forum Steering Committee (GF-SC) was established and mandated to consult with all the stakeholders and monitor the translation of the Action Plan into a detailed programme of activities. At its first meeting during the Cairo CGIAR MTM held in May 1997, the GF-SC recognised that the tasks and functions entailed by the Global Plan of Action were manifold and diverse, and that the NARS constituency was complex. It was therefore decided that the implementation of the Global Plan of Action would require two Secretariats - one for the NARS Steering Committee (NARS-SC) and the other for the GF-SC, with distinct but complementary functions. In October 1997, decision was taken that the GF-SC Secretariat will be hosted by World Bank/ESDAR in Washington DC and the NARS Secretariat by FAO/SDR in Rome with technical support from ISNAR. At the same time a GFAR Support Group was established under the chairmanship of IFAD.

Since then, a GFAR Programme of Work and Budget 1998-2000 has been prepared and extensively discussed by all stakeholders. A set of guiding principles was agreed upon for deciding on the

activities to be undertaken by GFAR. These are : subsidiarity, complementarity, additionality, transparency and openness, involvement of all stakeholders, research and institutional partnerships. In addition, a consensus was reached on the roles the GFAR Secretariat should exclusively play, namely : advisory, catalytic/promotional, broker, policy analysis, strengthening participation and integration, and advocacy roles.

The three GFAR committees met in Brasilia in June 1998 and took several decisions which can be summarised as follows:

- Confirmation of the guiding principles for GFAR action and of the roles of the secretariats as mentioned above.
- Endorsement of the GFAR Programme of Work and Budget 1998-2000 with a specific request to clearly identify the "value added" for each planned activity.
- Launching of the process of selection of the Executive Secretary of the NARS Secretariat and official opening of the NARS Secretariat in FAO, Rome on 1 August 1998 with the acceptance of the secondment by ISNAR of Dr. Christian Hoste as Senior Scientist to the Executive Secretary.
- Election of Dr. R.S. Paroda, Executive Secretary, APAARI, as Chairperson of both the GF-SC and NARS-SC in replacement of Dr. F. Chaparro, Chairperson of the LAC Forum and of Dr. M. Houssou, Chairman of FARA as Vice-Chairperson of the NARS-SC, and nomination of Mr. A. Derevier as Executive Secretary of the GF-SC.
- Date and venue of the 2nd Global Forum decided for the year 2000 in Germany; need to rapidly develop a strategic agenda allowing for extensive consultation and contribution of the regional and sub-regional fora.

Further information on the GFAR can be obtained from : Dr. Alain Derevier, GF-SC Executive Secretariat, c/o World Bank, 1818 Hstreet NW, Washington DC 20433 USA: Fax: 1.202.5223246; E-mail: aderevier@worldbank.org

Dr. Christian Hoste, Senior Scientist, NARS-SC Secretariat, c/o FAO/SDR, FAO, via delle Terme di caracalla 00100, Rome (From 1 August 1998) E-mail: choste@cgnet.com

DR. R.S. PARODA ELECTED CHAIRMAN OF GFAR

Dr. R.S. Paroda, Director General, Indian Council of Agricultural Research (ICAR), and Secretary, Department of Agricultural Research and Education (DARE), Government of India and Executive Secretary, APAARI has been elected as Chairman of the Global Forum on Agricultural Research (GFAR) for three years. He is Chairperson of both GFAR-SC and NARS-SC. Established on 31 October 1996, the GFAR is a global framework to facilitate exchange of information, access to knowledge, co-operation and research partnerships among the various stakeholders related to agricultural research and sustainable development. It seeks to strengthen NARS and regional and sub-regional fora for partnership in agricultural research.

APAARI heartily congratulates Dr. Paroda.

SOUTH ASIA NETWORK ON PLANT GENETIC RESOURCES (SANPGR)

MEETING AT NARC, NEPAL

1-3 September 1998

IPGRI Regional Offices in Malaysia and New Delhi organized the Fourth Regional Network meeting of South Asia National Plant Genetic Resources Coordinators jointly with the Nepal Agricultural Research Council, Lalitpur, Nepal. This network coordinates PGR activities with six countries namely Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka, and organises such meetings to promote and strengthen activities on plant genetic resources conservation and use, to address needs of national programmes in information sharing, germplasm exchange and documentation, human resource development and public awareness. It promotes/facilitates interaction among partners from different national programmes, provide scientific and technical support/advice and also takes up common agreed activities for the region such as specific short training courses.

Over 18 PGR experts including IPGRI staff participated in this meeting from Bangladesh, Bhutan, India, Nepal and Sri Lanka. The deliberations were held in eight Technical Sessions which reviewed the progress on the Third meetings' recommendations, discussed country status reports on genetic resource collection, evaluation, documentation, conservation and utilization, and the needs of the national programmes, national policies on Plant Genetic Resources for Food and Agriculture (PGRFA), promoting PGR conservation and use, and identifying research and training needs. Very good presentations giving information on national programme activities in plant genetic resources were made by the Country coordinators and thematic experts. The emerging issues of national and regional concern such as on CBD and Global Plan of Action (GPA), increased role of crop and information networks and facilitating germplasm exchange through regional collaboration such as SANPGR (South Asia Network on Plant Genetic Resources) were discussed. IPGRI's role in strengthening/supporting national and regional PGR activities was stressed.

Several recommendations emerged to facilitate networking. The participants agreed to have one focal point (country coordinator) for PGR activities and one or two main contacts for forestry and horticulture, as these disciplines needed enhanced emphasis. The importance of documenting indigenous knowledge and its use in both conservation and utilization was recognised. IPGRI's technical support was requested in taking up such activities by national programmes. The need to organise a national workshop was recommended in Sri Lanka and/or Bhutan during 1999, as national PGR activities have diversified much in these countries and IPGRI could play a coordinating role and provide scientific and technical input, besides funding support.

The follow-up on Global Plan of Action (GPA) was considered to be extremely important. It was recommended that the concerned national programmes/countries in South Asia facilitate to put in place the necessary regulatory/legislative mechanism as required under the provision of CBD, WTO, TRIPS, etc., as per their national needs and requirements. The participants were required to take stock of activities carried out on the 20 priority areas of GPA, and address to such needs expeditiously. Need to have National PGR Committees and Crop Germplasm Advisory Committees as necessary was also stressed.

For PGR management, cooperation/collaboration, bilateral arrangements may be promoted further and IPGRI may facilitate these. Existing facilities can be made use of on mutual negotiations and modalities worked out. Increased regional collaboration was stressed in strengthening PGR databases on priority. IPGRI's collaboration in crop networks on underutilized crops was appreciated and it was recognised that more new crops be taken up considering their regional importance i.e. minor millets (Finger millet, Kodo millet, Foxtail millet and Little millet), minor legumes (Black gram, rice bean, lablab bean, horse gram, amaranth and cucumber).

Overall concern was expressed on safe movement of germplasm in the region; exchange of *in vitro* materials through appropriate quarantine measures and biosafety regulations. Establishment of a Regional Plant Quarantine Network for South Asia region was suggested. To facilitate material exchange, IPGRI's assistance was for developing the MTAs (Material Transfer Agreement) jointly with NBPGR.

The needs for infrastructural development/specific research such as on genetic diversity assessment, molecular characterization, wide hybridization, data management, bioinformatics, *in situ* conservation and participatory approach, *in vitro* conservation, cryo-preservation and DNA storage were identified, and above all the need for human resource development through specialized training, short courses, visits to well developed centres, M.Sc and Ph.D. training at IARI/NBPGR, New Delhi, India and elsewhere.

With the recent signing of the MoU between APAARI and IPGRI to promote and strengthen regional and crop-based networks in the Asia-Pacific region under the umbrella of APAARI, many of the above activities in South Asia will gain further momentum.

[Contributed by : IPGRI South Asia Office, Pusa Campus, New Delhi 110 012, India].

ASIAN INSTITUTE OF TECHNOLOGY (AIT)



MISSION OF AIT

AIT was established in 1959 as the South East Asia Treaty Organization (SEATO) Graduate School of Engineering. Its 160 hectare campus is located in Pathumthani province, north of Bangkok. The institute mission is as follows:

The Asian Institute of Technology (AIT) will take a leadership role in the promotion of technological change and its management for sustainable development in the Asia and Pacific Region, through high-level education, research and outreach activities which integrate technology, planning and management. The focus of the Institute's activities is in technology, with special emphasis on the inter-disciplinary interface among the above three fields, and will include attention to environmental and socio-economic considerations.

ACTIVITY HIGHLIGHTS

AIT has pursued its objective by offering high quality programmes in post-graduate education, research and outreach. Some highlights are given.

- Over 9,000 AIT alumni occupy senior positions in government, industry and academic centres in Asia and the Pacific. As a result, they exert a considerable sphere of influence in the region. Indeed, it is a source of considerable pride to AIT that over 95% of its alumni are working in the region, the majority in their home countries.
- Yearly, AIT's four schools and several closely associated academic centres provide advance education and training to over 1500 students and 800 trainees. They are supported by an international team composed of some 170 faculty and over 180 research staff.

- Regular degree programmes at the Diploma, Masters' and Doctoral levels are offered by AIT's four schools; Advanced Technologies, Civil Engineering, Environment, Resources and Development, and Management. Continuing education courses are typically one to three weeks in duration and are designed to provide up-to-date information and practical training in topics that are highly relevant to the professional needs and interests of participants.
- AIT students benefit greatly from the experience of living and working in a multi-cultural environment. The professional contacts emanating from the students' time at AIT are sustained throughout their subsequent careers and are a highly positive force in encouraging harmonious international relations and friendship.
- During the course of its 39-years history, AIT has earned a well-deserved reputation for the high quality of its teaching, research and outreach activities. AIT seeks to sustain this reputation by working in partnership with governments, international bodies and agencies, business and industry.

RESEARCH AND EDUCATION THRUST

There is a wide diversity in the field of research and education provided by four schools, namely the School of Advanced Technology, School of Civil Engineering, School of Environment, Resources and Development, and the School of Management. Amongst these, the activities of the School of Environment, Resources and Development (SERD) which are more concerned with the agriculture and related activities of NARS are given here.

School of Environment, Resources and Development

The essential concerns of the School of Environment, Resources and Development (SERD) are for the environment in its broadest multidisciplinary scope, for effective resource use, processing and transformation, and for sustainable development. The School's mission is thus based on the premise that "The ultimate goal of all activities is development, to be accomplished through capability building formulation of enabling strategies, ensuring of equal opportunities, elimination of disparities and attainment of sustainability".

All efforts are guided by the overriding concern for the environment, specifically its conservation, protection or restoration. Such a focus entails action at the interface between humankind and nature, critical for the survival of human, animal and plant life on earth. The vital means are resources, both renewable and non-renewable. These include the natural, human and technical resources required for land and water based food production; energy generation and distribution; water supply and waste disposal; habitat planning and biomass management.

Even with the intensive move towards industrialisation within the region, agriculture and the continued development of the agricultural sector remain a major objective for any of AIT's client countries. AIT supports these development efforts through an interdisciplinary programme in sustainable agriculture that involves most of the academic programmes in SERD as well as the academic programmes in other AIT Schools. The aim is a natural resources oriented programme that balances the need for countries in the region to meet their growing population's requirements for agricultural products with the necessity to protect the natural resource environment on which agriculture depends. All ten of SERD's academic programmes along with nearly 50% of the faculty are involved in this interdisciplinary effort. In addition, the irrigation and water management sections of the School of Civil Engineering are fully committed to agriculture.

The School of Environment, Resources and Development offers doctoral, master, diploma or certificate programmes in twenty fields of study. Some of these with more bearing on agriculture are given here.

Agricultural Systems Study : Within the broad range of possibilities in agricultural system, efforts are made to concentrate on areas that are complimentary to those commonly available within client national institutions and for which AIT can support continuously evolving national programme needs. Some of the current specific interests within the field of study include:

- Smallholder Development and Poverty Alleviation
- Crop Simulation Modelling
- Plant Protection through Integrated Pest Management
- Urban Applications of Agriculture Sciences
- Irrigation Water Management

Aquaculture : The aquaculture field of study concentrates on three interrelated aspects:

- Production Technology – sufficient aquatic produce needs to be harvested for food or sale to make it attractive option, especially in marginal and resource-poor environments.
- Social and Economic Aspects – there is a need to promote the culture of both upmarket value species such as shrimp and carnivorous fish to generate foreign exchange, and low-market value herbivorous aspects – sound use of resources so as not to degrade or pollute the environment.

In response to the varied demand for professional manpower, two areas of specialisation are offered:

- Aquaculture Technology encompassing culture systems; breeding; feed; water quality; fish health; experiments; design and analytical techniques.
- Aquatic Resource Planning and Management covering socio-economics; system management; entrepreneurship and marketing; and environmentally sound resource use.

Postharvest and Food Process Engineering : Research is focused on the systems for handling grains and perishable products in developing countries, and the development of small-scale food processing technologies. Specific research activities include the study of alternate grain drying and storage systems; postharvest handling and storage of fruits and vegetables; improving tropical fruit juice quality; the textural characterization of foods; rapid detection of microbiological spoilage; biotechnology for added-value processing; oxidative rancidity of cooking oils and fatty foods; drying liquid foods; and coffee drying and roasting.

Natural Resource Conservation : The field of study was developed to address the most serious problems of Asian natural resources. These problems are: (1) deforestation, (2) land degradation, (3) loss of biological diversity, and (4) severe and increasing environmental pressure on fresh water resources.

Students in this field of study take courses and do thesis research to prepare them to become effective scientists, planners, managers, and educators in natural resource conservation. Courses offered include tropical ecosystems, forestation and agroforestry; natural resources and environmental professional practice; land evaluation and resource management; natural resource economics; natural resource planning; land degradation modelling and management; soil information systems, techniques and methodologies for decision making; protected area planning, management and policy; and research design, data analysis and report preparation.

Remote Sensing and Geographic Information Systems : The twin tools of Remote Sensing (RS) and Geographic Information Systems (GIS) are now reaching level of maturity that is making them extremely useful for

environmental monitoring, and as such they are becoming important support technologies for sustainable development. Individual areas which can be addressed are digital image processing, algorithm and methodology development, database design and data requirements specification. Applications will depend year by year upon the interests of the enrolled students but a cross-section of past activity includes natural resource, hydrology, regional planning, agriculture, forestry and various environmental issues.

Integrated Tropical Coastal Zone Management : The Asian Institute of Technology (AIT) is initiating an Integrated Tropical Coastal Zone Management (ITCZM) Programme and Centre to develop human resources for coastal zone management in the Asia and Pacific region. This will focus on sustaining coastal resources and conserving the environment. It will do so by training professionals who can influence and encourage broad civic participation, coordinate the actions of the government and the private sector, and spread knowledge that can contribute to effective solutions of relevant ITCZM issues, for example, land use conflict, resources depletion, pollution, biodiversity loss, landscape degradation, eroding shorelines, and sea level rises. The ITCZM Programme will carry out various activities, including, but not limited, to the following:

- an interdisciplinary postgraduate programme and short-term training courses for industrial and governmental sectors;
- collaborating with industry and government to identify areas of concern;

- conducting and advancing basic and applied research relevant to the management of tropical coast zones;
- developing a database and disseminating knowledge for coastal zone management;
- enhancing community education and public awareness in this field; and
- providing consultancy for user groups.

Other Centres of Expertise

There are four other centres imparting specific programmes on research and education. These are: Centre for Library and Information Resources, Continuing Education Centre, Asian Disaster Preparedness Centre and Centre for Language and Educational Technology. Apart from these four centres, two more centres have been opened at Vietnam – The AIT Centre Vietnam (AITCV) and the SWISS-AIT-Vietnam (SAV) Centre providing advanced education and Management Development Programme.

AIT is highly focused towards the promotion of technological change and its management within the context of sustainable development in the Asia and Pacific region.

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SCHOOL OF ENVIRONMENT, RESOURCES AND DEVELOPMENT

Programmes and Fields of Study

- | | |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| ● Agricultural and Aquatic Systems Programme | : Agricultural Systems
Aquaculture |
| ● Agricultural and Food Engineering Programme | : Agricultural Machinery and Management
Postharvest and Food Process Engineering |
| ● Bioprocess Technology Programme | : Bioprocess Technology |
| ● Energy Programme | : Electric Power System Management
Energy Economics and Planning
Energy Technology |
| ● Environmental Engineering Programme | : Environmental Technology and Management
Environmental Toxicology, Technology and Management
Water and Wastewater Engineering |
| ● Human Settlements Development Programme | : Regional and Rural Development Planning
Urban Planning, Land and Housing Development |
| ● Pulp and Paper Technology Programme | : Paper and Board Technology
Pulping Technology |
| ● Space Technology Applications and Research Programme | : Natural Resource Conservation
Remote Sensing and Geographic Information Systems |
| ● Urban Environmental Management Programme | : Urban Environmental Management |
| ● Integrated Tropical Coastal Zone Management Programme | : Integrated Tropical Coastal Zone Management |

AQUATIC RESOURCES RESEARCH FINDS PLACE IN APAARI

Fisheries and aquaculture play an important role in nutrition, employment generation and foreign exchange earnings, in the Asia-Pacific region. This region contributes 60% to global aquatic resources production, 91% to world aquaculture production, and 56% of capture fisheries production thereby indicating the importance of the sector in food production not only for the region, but for the entire world. Aquatic products provide about 30-70% of the high-quality protein diet in the region. The rapidly increasing human population is resulting in increased pressure on natural resources. It is estimated that by the year 2010, an extra 40-50 million tons of fish will be needed to maintain the present per caput availability of food fish. Many nations are promoting fish products for better nutrition and food security which would further increase the demand.

Fisheries and aquaculture rank between first to fourth in total national foreign exchange earnings in most countries of the region and employ 1-8% of the populations directly and many more in ancillary industries including large numbers of women in post-harvest sector. Moreover, aquatic resources provide the fastest growing food production in the world, due mainly to rapid developments in aquaculture in the Asia-Pacific region.

It is now recognized that a systems approach to include agriculture, fisheries, livestock and forestry is needed in the regional efforts to alleviate poverty, ensure food security and manage natural resources. APAARI, in particular, has realized that its activities so far have been concentrated on crop plants and there is a need for a stronger representation from the other sectors. In view of this, APAARI, during its annual meeting in November 1996, requested the assistance of the International Center for Living Aquatic Resources Management (ICLARM) – the only aquatic resources-based centre of the CGIAR and associate member of APAARI – to form a Fisheries Subgroup which would identify regional research programmes that could address constraints common in the region for the management of natural aquatic resources. At the same time, the Subgroup would develop linkages with other sectors (agriculture, forestry

and livestock) and regional and international agencies for identifying and addressing research issues of strategic importance. In response, ICLARM approached each of the member institutions from 19 countries seeking their views for the formation of a Fisheries Subgroup under APAARI. The member institutions strongly expressed the need for such a forum and indicated keen interest in joining the group.

FORMATION OF THE APAARI GROUP OF FISHERIES AND AQUATIC RESEARCH (GoFAR)

On 11-12 October 1998, ICLARM with the support of APAARI Secretariat and funding from Australian Centre for International Agricultural Research and Australian Agency for International Development (ACIAR/AUSAID) organized a meeting in Suwon, Republic of Korea to catalyze the coming together of senior fisheries and aquatic resources research managers from APAARI member institutions and regional and international organizations. This meeting preceded the Expert Consultation and the Fifth General Assembly of APAARI held at Suwon, 13-15 October 1998. Participants from 13 countries (Australia, China, India, Indonesia, Korea, Malaysia, Nepal, New Zealand, Pakistan, Philippines, Sri Lanka, Thailand and Vietnam), one regional organization (Southeast Asian Fisheries Development Centre, SEAFDEC) and two international organizations (FAO and ICLARM) attended the meeting. Senior fisheries research officials from five other countries (Bangladesh, Fiji, Japan, Papua New Guinea and Western Samoa) and one regional organization (Network of Aquaculture Centers in Asia-Pacific, NACA) could not attend the meeting but have indicated strong support and interest in joining the group.



Fisheries Subgroup Meeting being addressed by Dr. Meryl Williams

Highlights of the meeting included: i) discussions on the status of aquatic resources, constraints to development and research priorities of various participating countries; ii) identification of priority areas for regional collaboration in research and capacity building; and iii) formation of Group of Fisheries and Aquatic Research (GoFAR) under APAARI.

CONSTRAINTS TO DEVELOPMENT OF AQUATIC RESOURCES PRODUCTION

FAO projections for food fish demand based on population growth and other factors which drive demand, saw the need for an additional 40-50 million tons of fish production by the year 2010, worldwide, as against the present production of some 80 million tons of food fish. Despite the importance of the aquatic resources sector and the recent fast development of aquaculture production, the world demand for fish by the year 2010 may not be met because of the following constraints and issues, as identified during the Meeting:

- a decline in fishery resources is foreseen due to overexploitation – 60% of major world fish stocks are over-exploited – and degradation of aquatic habitats by land-based activities (agriculture, forestry, irrigation, power generation, industrial and urban development);
- uncertain sustainability of aquaculture production due to continuous environmental degradation, disease outbreak, competition for dwindling water resources and feeds with other sectors; inequity of distribution of benefits from aquaculture leading to conflicts and displacement of poor producers; and that the activities of the small scale rural sector, the main fish producers, are not fully integrated in rural development policies for agriculture, livestock and water;
- declining aquatic biodiversity, especially in fresh waters, which limits options for new species and strains for aquaculture and diminishes the natural productivity and resilience of aquatic ecosystems;
- lack of technical support from national, regional and international agencies in terms of aquaculture and fisheries research, development and extension services; and
- lack of fisheries and aquatic resources voice in the Global Forum on Agricultural Research as well as lack of priority to the aquatic resources sector in many countries, thus endangering the food security of the many millions of poor families which depend on the resources.

MECHANISMS TO ALLEVIATE PROBLEMS IN PROMOTION OF AQUATIC RESOURCES RESEARCH

The Meeting recognized that regional research collaboration would benefit all countries, organizations and networks in the region by: (i) speeding the exchange of knowledge, research methods and sectoral development options among researchers working on similar problems thereby avoiding unnecessary duplication of research; (ii) allowing spill-over of research results outside national boundaries and sharing specialized research facilities and expertise (example: disease diagnosis); (iii) facilitating linkages among researchers; (iv) providing a mechanism whereby fisheries and aquatic resources research issues could be coordinated regionally and then raised in the Global Forum on Agricultural

Research as well as coordinate inter-sectoral activities with forestry and agricultural research.

GoFAR was identified as the main vector for regional coordination of efforts in addressing common interests on aquatic resources research as well as provide means to interlink with other sectors such as agriculture, livestock and forestry. GoFAR's main activities will be aimed at the following:

- identifying and implementing regional priorities in research and capacity building in aquatic resources management;
- addressing issues of common interest among agriculture and fisheries sectors, and
- building linkages among NARS and other regional/international organizations.

The Group has identified a number of research areas where the group could work in collaboration with each other within the region. The identified research areas/activities included, besides others: (i) addressing gender issues in fisheries and aquaculture; (ii) fodder management for grass carp production; (iii) institutional strengthening in research priority setting; (iv) integrated management of indigenous species; (v) conservation of indigenous species; and (vi) mangrove-friendly aquaculture. Realizing the importance of integrated farming systems to small farmers, it was agreed that FAO and ICLARM will produce a manual on Integrated Rice-Fish Farming.

At the inter-sectoral level, the Group has identified the following main areas for closer linkages and collaborative research with other sectors (agriculture, livestock and forestry):

- integrated farming systems
- watershed management
- efficient water and land use
- gene banking
- genetic research /biotechnology
- biodiversity conservation
- feedstock production and management
- health management
- rural development and resource management policies.

PARTNERSHIP OF GoFAR WITH APAARI

GoFAR was subsequently presented to the APAARI General Assembly on 15 October 1998 in Suwon, Republic of Korea and was officially incorporated into APAARI, with ICLARM named as focal point for GoFAR within APAARI. As an integral part of APAARI, GoFAR will hold its meeting in conjunction with APAARI's annual meetings. Focal points of GoFAR who are senior aquatic resources research managers from institutions in 19 Asia-Pacific countries and regional and international organizations will convene during the meetings.

[Contributor : Dr. M.V. Gupta, Director for International Relations, ICLARM, MCPO Box 2631, 0718 Makati City, Philippines].

FAO DIRECTOR-GENERAL'S MESSAGE ON THE OCCASION OF WORLD FOOD DAY/TELEFOOD 1998

16 October 1998 ("Women Feed the World")

This eighteenth observance of World Food Day marks the fifty-third anniversary of the founding of the Food and Agriculture Organization of the United Nations (FAO) in Quebec City, Canada.

This year's World Food Day and Telefood theme is "Women Feed the World". This theme was selected to pay tribute to the significant role of women in agriculture, fisheries and forestry and their enormous contribution to household and national food security.

In many countries, particularly in developing countries and in agrarian societies, the production of staple food, cash crop and livestock rely heavily on women's labour. Most of their backbreaking work is unpaid or grossly underpaid and little attention is paid by agricultural tool producers, researchers, and extension workers to alleviate women's drudgery. Rural Women play a key role in ensuring household food security, especially in times of crisis. Their strategies for coping during droughts and famines, namely by cultivating secondary food crops in small plots around the house and keeping small livestock, are testimonials of the resilience and ingenuity of women in the face of crisis. Women are involved in harvesting, processing and marketing of food products, and possess a vast knowledge of local biodiversity, which they apply in ingenious sustainable production systems on their small plots. They are universally responsible for food preparation for their families. In this capacity, they are often the first to suffer from environmental degradation, as they have to travel farther and farther from their homes to gather the requisite fuelwood and water to feed their families.

Notwithstanding their invaluable contribution to household and national food security, very limited attention is dedicated to the vast potential that women farmers and agro-entrepreneurs represent in terms of achieving optimal agricultural productivity and reducing post-harvest losses. This is one of the reasons why, on this World Food Day, we still face the morally untenable situation that more than 800 million men, women and children in the world suffer from chronic hunger and malnutrition. At the World Food

Summit convened by FAO in 1996, leaders from 186 countries pledged to reduce the number of hungry people in the world at least by half by 2015. They also acknowledged "the fundamental contribution to food security by women, particularly in rural areas of developing countries, and the need to ensure equality between women and men". To this end, the Plan of Action adopted by the Summit specifically calls for the promotion of women's full and equal participation in the economy, and for the introduction and enforcement of gender-sensitive legislation providing women with secure and equal access to and control over productive resources including credit, land and water.

World Food Day observances provide an opportunity to review progress made at country level in the follow-up to the Summit and is an occasion for mobilizing the various sectors of civil society in the campaign to achieve the objective of **Food for All**. Clearly achieving the Summit goal and winning the war against hunger and malnutrition at country level require the contribution of many actors - national and local governments, NGOs, the private sector, youth, the media, parliamentarians, the academic and scientific communities – and last but not least, both men and women farmers.

In the framework of World Food Day, I launched in October 1997 "Telefood", a televised appeal for global solidarity and support as part of the follow-up to the Summit. This year's edition of TeleFood will be held from 16 to 18 October. During these three days, TV programmes and broadcasts of related events will span the globe with images and information, highlighting women's contributions to the fight against poverty and hunger and urging solidarity to ensure food security for all. Last year, Telefood was watched by over 500 million people who learned about the scourge of hunger and malnutrition and responded by contributing more than US\$ 2 million to help poor male and female farmers to produce more food, improve nutrition and family incomes to lead lives free from hunger. Currently, 159 Telefood small-scale projects provide tools, seeds or other essential supplies for food security activities in developing countries.



Mr. Jacques Diouf, DG, FAO visits National Academy of Agricultural Sciences, New Delhi

This year's World Food Day/ Telefood theme should also help create the enabling political, social and economic environment required for the eradication of hunger and poverty.

By drawing attention, on the one hand, to the significant contributions that women make against many odds to food production and food security, the Organization also wishes to enhance the understanding and responsiveness of policy- and decision-makers to the needs and priorities of women engaged in agriculture.

By implementing the commitments made at the World Food Summit, including those calling for equality between women and men in terms of access to productive resources, the battle for food security can be won. I hope this year's World Food Day/Telefood will serve as a milestone for the advancement of all the women who help "feed this world".

[For more information contact : Women and Population Division
Sustainable Development Department, FAO of the United Nations
Rome. Tel : 003906-57052251, Fax: 003906-57053152]

HYBRID RICE RESEARCH GETS BOOST WITH ADB

Hybrid rice technology has helped China increase its rice production significantly during the last two decades. Research at the International Rice Research Institute (IRRI) as well as at the national level in several countries of the region indicates that the same success can be enjoyed elsewhere.

Major donors realise that increasing rice yields over the next many years is crucial to economic and political stability in the Asia-Pacific region. The Asian Development Bank (ADB) has approved funding for a 3-year project on Development and Use of Hybrid Rice in Asia. The project with a \$1.5 million budget, targets Bangladesh, India, Indonesia, the Philippines, Sri Lanka and Vietnam. Coordinated by IRRI, the project was launched 11-13 May this year in collaboration with the Food and Agriculture Organization of the United Nations and the Asia and Pacific Seed Association.

AIMS/OBJECTIVES

The project has two aims. First, to strengthen the capabilities of national agricultural research systems in R&D, so they can develop and transfer hybrid-rice technology expeditiously. Second, help private and public-sector enterprise (including nongovernment organizations) to increase rice production through hybrid technology. To do this, the project aims to:

- strengthen human resource R&D and seed production in member countries;
- develop germplasm collaboratively;
- encourage the free exchange of germplasm and information;
- establish collaborative links among concerned enterprises in participating countries;
- strengthen on-farm testing and promotion of hybrid technology; and

- identify necessary policies to encourage investment in hybrid rice research and seed production.

CHINA TO PLAY KEY ROLE

The IRRI will provide key technical inputs and will also be responsible for financial administration of the project. The FAO and APSA will formulate strategies for strengthening hybrid rice seed industries in member countries. The countries themselves have undertaken to establish or improve already-existing national programmes by deploying human resources and making funds available for selected project components. China, as an affiliate member has agreed to share its wealth of information and breeding materials, provide hybrid seeds to interested countries, and transfer technology. It will also provide training and consultancy services.

[Contact person : Dr. S.S. Virmani, IRRI,
P.O. Box 933, Philippines. Fax : 006632-8911292,
E-mail : postmaster@irri.cgnet.com, ASIAN SEED VOL.5,
No.4, 1998].



Hybrid Rice Field

UNDERUTILIZED TROPICAL FRUITS IN ASIA NETWORK (UTFANET)

UTFANET is a network organization set up to facilitate close partnership between National Agricultural Research Systems (NARS) and related institutions in the region that are working on tropical fruit trees.

OBJECTIVES

UTFANET aims to promote and expand production of underutilized tropical fruits through strengthening national programmes by raising the productivity and quality of priority species for income generation and improved nutrition of rural people through participatory projects implemented through partnerships amongst UTFANET member countries. UTFANET carries out the following activities to achieve these objectives:

Research and Development : The following R&D activities to improve production are being undertaken:-

1. Germplasm characterization, testing and use of elite lines;
2. Development of new propagation techniques;
3. Pre and post harvest management; and
4. Socio-economic and market studies.

Capacity Building : UTFANET has already organised two training courses for human resource development of participating countries. The management has already identified two other areas for training and also agreed for exchange visits.

Publications : The network publishes a newsletter, 2 issues per year. This is distributed not only to members and collaborators in the region but also to international scientists, administrators, policy makers, academic and other interested organisations. The distribution has now risen to 1000 copies. A Directory of Scientists and collaborators who are involved with underutilized tropical fruits has been published to exchange information and technology.

Information Gathering and Exchange : All participating countries have carried out a technical survey on priority fruit species. The information includes details on genetic resources, propagation, breeding and production methods, post-harvest, socio-economic and marketing. This information is being included in the database already established after the initial survey in 1994. Network members have also access to the services of ICUC database and information systems.

Structure of the Network : The network is governed by a Steering Committee of national coordinators nominated by the Agriculture Ministries of the participating countries, the network coordinator (as an ex-officio member) and representatives from other support agencies (with no voting

rights). The national network activities act as the primary link between the Secretariat and the NARS of their country. The Steering Committee sets policy, develops strategic plans, approves programmes and reports to donor agencies.

Representatives of support group agencies (at present Commonwealth Science Council (CSC), International Centre for Underutilized Crops (ICUC), International Plant Genetic Resources Institute (IPGRI), FAO and APAARI provide guidance to the Steering Committee and coordinate in executing the planned network activities. The support group also provides multilateral assistance elements to the network.

Membership and Collaborators : The MoA's (Memorandum of Agreements) act as a mechanism for collaborative research and administrative procedures that assist in the agreed activities of the network. The activities include participatory research and development of underutilized fruits, dissemination of information through publications to promote and expand the network, steering committee meetings, regional workshops, trainings, consultation meetings, monitoring, and exchange of scientists. Since its inception eight countries of the region, Bangladesh, India, Indonesia, Nepal, Philippines, Sri Lanka, Thailand and Vietnam have signed the MoA with the Executive Agency, ICUC. The Agriculture Ministries of Pakistan and Malaysia are in the final stages of processing the MoA for signature.

Scientists and scientific administrators of the region and internationally, who are willing to share knowledge, result of research and technology can be network collaborators.

All these activities are of a participatory nature, and involve co-operative participation between scientists and farmers, processors, traders, consumers and any other individuals or organizations relevant to the aim of the network.

Network Secretariat : The coordination and management of UTFANET Secretariat is based at ICUC HQ in Southampton, UK until alternative arrangements to locate the Secretariat in the region are made. The Secretariat provides logistic support to network activities and the co-ordinator facilitates implementation of activities approved by the Steering Committee. A part-time office staff supports the co-ordinator.

Future Work : In its Fourth Steering Committee meeting held at Bangkok in April 1998, the members agreed on the following activities:

- A project on " Regional partnership research and development of selected underutilized fruits in Asia"



Participants of Fourth Steering Committee Meeting – UTFANET

will be finalised, to be submitted to IFAD with endorsement of APAARI.

- UTFANET and IPGRI will jointly finalise the draft descriptors of Jackfruit, one of the network priority species and IPGRI will take the initiative to publish the descriptors.
- IPGRI will investigate the possibility of assisting UTFANET member countries to collect germplasm of jackfruit from northeastern Bangladesh and eastern India where the germplasm is under threat of genetic erosion. IPGRI will also facilitate the exchange of germplasm.
- The Secretariat will raise funds to publish a book by extracting the country technical reports already

produced on three priority species. The Secretariat will publish leaflets to promote UTFANET and will continue to publish UTFANET Newsletter.

- The training courses will be arranged in the near future if funds could be found, one on post-harvest technology and the other to be organised jointly with IPGRI on "Maintenance of field genebanks".
- Database to be developed in collaboration with IPGRI.

It is anticipated that ICUC will host the Secretariat in Asia once a suitable location for ICUC HQ has been determined.

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CIMMYT OFFERS CD-ROM DATABASE

The International Wheat and Maize Improvement Centre in Mexico has just produced a CD-ROM, The International Wheat Information Systems (IWIS). The IWIS has two major components. First, The Wheat Pedigree Management System, which assigns and maintains unique identifiers and genealogies. Second, the Wheat Data Management System, which managed results from field and laboratory studies and data on known genes.

The System requires a 486/33 or better system running Windows 3.1 or Windows 95. Installation is simple. The crop scientists should find it of great interest as system will help prevent duplication of expensive evaluations and will also make it easier to breed for greater genetic diversity.

[ASIAN SEED VOL.5, NO. 4, 1998]

ANNOUNCEMENT

The National Academy of Agricultural Sciences will be organising the Fourth Agricultural Science Congress on the subject entitled "Sustainable Agricultural Export" during February 21-24, 1999 at Jaipur where large number of fellows and scientists would be participating. The Prime Minister of India is likely to inaugurate this Congress.

INIBAP-ASPNET Activities

The Asia Pacific Network on Banana and Plantain (ASPNET), based at the Philippines Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD), is engaged in research and development activities in banana and plantain. It organizes trainings and workshops for specific needs of national programmes in the region. Some recent activities are reported here.

MUSA GERMLASM INFORMATION SYSTEM

TRAINING/WORKSHOP : The Musa Germplasm Information System (MGIS) was developed to provide curators of banana field collections throughout the world a common and effective management system. The MGIS database contains information on identification (passport data), characterization, evaluation, management, and environment/site descriptors. The MGIS database and software is available in CD-ROM. The 1st Regional MGIS Training/Workshop sponsored by INIBAP was held at the Centre for Wet Tropics Agriculture in South Johnstone, Australia from July 6-11, 1998. Twelve curators of banana germplasm collections from the ASPNET region from Indonesia, Malaysia, the Philippines, Taiwan, Thailand, China, Sri Lanka, Papua New Guinea, Vietnam and Australia joined the training/workshop conducted by Dr. Jean-Pierre Horry and Ms. Elizabeth Arnaud from INIBAP Headquarters in Montpellier, France. Dr. Agustin Molina, ASPNET Regional Coordinator, Ms. Versalynn Roa, RISBAP Manager and Dr. Ramon Valmayor, INIBAP Honorary Research Fellow also participated.

Regional Workshop on Disease Management of Banana and Citrus : INIBAP-ASPNET joined hands with the Food and Fertilizer and Technology Center for Asia and the Pacific (FFTC-ASPAC), in sponsoring this workshop held on October 14-16, 1998 in Davao City, Philippines.

The workshop brought together 17 participants coming from Australia, Indonesia, Japan, Malaysia, Taiwan, Thailand, USA, Vietnam and the Philippines, who shared their expertise on the various aspects of disease management on banana and citrus. In addition, some 30 participants coming from the private and the academic sector also attended. The participants discussed the current status of virus indexing, the mass production of disease-free planting materials, nursery-management practices and post planting practices to ensure good management of virus diseases. ASPNET country status of disease occurrence, eradication and rehabilitation programmes were also presented. The active participation of local industry people in the workshop indicated a significant importance of banana viruses in the banana industry. The workshop output are as follows:

Citrus Group : Need for a regional standardized manual of production system for disease-free planting materials and certification for citrus (nursery and field manuals); Standardize indexing technique by establishing a centralized

regional lab for each country; conduct training on indexing, grafting, nursery management and handling database characterization of genetic materials; and to hold regular meetings, workshops, and creation of Asia and Pacific Technical Working Group for Citrus.

Banana Group : Research : More rapid propagation techniques for efficient plantlet production; diversity studies of banana strains for major viruses (BBTV, CMV, BBWMV, BSV); and cross protection studies; susceptibility of tissue culture (TC) plantlets to disease infection in the field; yield loss assessment studies among important viruses; development of virus resistant varieties.

Development : Establishment of foundation stock in insect proof screenhouses; certification of seedlings and national eradication programme for banana virus diseases.

Policy Recommendations : Accreditation of tissue culture laboratories; establishment and accreditation of virus indexing laboratories; and quarantine regulation on movement of planting materials.

Other Emphasis : Training on modern techniques of detection; publication of manuals; involvement of accredited NGOs in propagation and sale of virus-free materials.

TRAINING ON VIRUS INDEXING ON BANANA AND CITRUS

INIBAP and FFTC together with the University of the Philippines, Los Baños as local host, organized this hands-on training on indexing banana and citrus for mass propagation of disease-free planting materials through tissue culture with ELISA and PCR-based techniques using antibodies and DNA. This training was to take advantage of Prof. Hong-Ji Su of the National Taiwan University, who attended the Regional Workshop on Management of Banana Virus Diseases. The training was conducted from 19-21 October. A total of 22 researchers and technicians coming from state colleges and universities, government and private sectors attended. Seventeen of the participants directly worked on banana tissue culture either on production or research. One participant came from Indonesia as Banana Bunchy Top Virus is an important disease in that country. Similar trainings are being planned for other ASPNET countries for 1999.

EIGHTH INIBAP-ASPNET REGIONAL ADVISORY COMMITTEE MEETING

At the invitation of Kathryn Adams, Director of Queensland Horticulture Institute, the official representatives of INIBAP Asia and Pacific Network convened on October 21-23, 1998 in Brisbane, Australia the 8th RAC meeting. The agenda items discussed included progress reports of banana projects, state of the art of banana R & D, updating regional priority research areas, training requirements of banana researchers, new projects and initiatives, and membership to ASPNET RAC.

[Contributor: Dr. Agustin B. Molina, Regional Coordinator, ASPNET C/o PCARRD, Los Baños, Laguna, Philippines].

THE ASIAN NETWORK ON SWEET POTATO GENETIC RESOURCES (ANSWER)

The International Centre for Potato (CIP), which has the global mandate for sweet potato, and IPGRI are collaborating to better conserve and efficiently use the Asian sweet potato biodiversity.

Throughout Asia and the Pacific, a number of sweet potato germplasm banks of varying sizes have come into existence. Over 16,000 accessions are maintained in national programmes across Asia and the Pacific. Most of the sweet potato germplasm is maintained *ex situ* in field genebanks, with some small percentage of cultivars being maintained in *in vitro* genebanks or as seed populations. Conservation of sweet potato genetic diversity in field genebanks is not only risky but also expensive and labour intensive, resulting in a heavy burden on national programmes. Hence, there is an urgent need in APO-countries for strategies that can strengthen the long-term maintenance of sweet potato genetic diversity, increase its use and reduce the maintenance costs.

Common targets in strengthening the long-term conservation and use of Asian sweet potatoes and the recognition of a need for regional coordination and collaboration between countries led to the formation of the Asian Network on Sweet Potato Genetic Resources (ANSWER), in a workshop jointly organised by CIP and IPGRI in May 1996 in Bogor, Indonesia. ANSWER now has eleven member countries as partners. Its first aim is to save the large investments made in germplasm collection by *ex situ* conservation. The long-term targets of the network, attempted to be achieved through applying a holistic conservation-for-use approach, include several items, such as improved evaluation, characterization and rationalisation of collections; secure conservation of wider diversity through effective use of complementary conservation strategies; availability of research results and technical back-stopping from CIP and IPGRI in the areas of field genebank maintenance and management, *in vitro* conservation and seed conservation; development and use of information network for member countries to access world-wide network of scientific institutions engaged in different aspects of sweet potato research; and collaboration efforts to attract funds to carry out these endeavours.

ANSWER is an informal low-transaction cost network that has been formed based on the expressed needs of its members. At present, Dr. M. Jusuf at the Research Institute for Legumes and Tuber Crops (RILET),

Malang, Indonesia is the Chairperson and IPGRI-APO is helping by acting as the interim secretariat.

ACTIVITIES OF ANSWER

In 1997, ANSWER continued to develop as the main regional collaboration body on conservation and use of Asian sweet potatoes. Several joint actions were made during the year through ANSWER.

Training on maintenance, characterization and duplicate identification of *Ipomoea batatas* collections was jointly organised by CIP, IPGRI and the Philippines Root Crop Research and Training Centre, Visayas State College of Agriculture, in Baybay, Leyte, Philippines on 1-6 September 1997. Ten trainees, mainly sweet potato genebank curators, from six different countries participated in the training.

Development of a research proposal of ANSWER countries was also initiated with attempts to attract outside funding for further action.

ONGOING ACTIVITIES : Several specific studies are being carried out in collaboration between IPGRI, CIP and specific ANSWER members. These studies focus on identified key issues on the conservation of Asian sweet potatoes, such as :

- Complementary conservation strategies emphasising especially the use of botanical seeds.
- Rationalisation of collections in field genebanks.
- Population patterns within regional germplasm and genotype identification applying both morphological and molecular methods.

For more details contact: (1). **Mr. M. Jusuf, Chair,** ANSWER and Plant Breeder, Research Institute for Legumes and Tuber Crops (RILET), Jl. Raya Kendalpayak, P.O. Box 66, Malang 65101, Indonesia. Tel : 0062-341-801468; Fax : 0062-341-801496; e-mail : blitkabi@mlg.mega.net.id. (2). **Dr. Gordon Prain,** CIP Regional Representative, International Potato Centre, Bogor, Jl. Merdeka 147, Bogor 16111, Indonesia. Tel : 0062-0251-317687, Fax: 0062-0251-316264; e-mail : g.prain@cgenet.com. (3). **Dr. V. Ramanatha Rao,** Senior Scientist, IPGRI Regional Office for Asia, the Pacific and the Oceania, P.O. Box 236, UPM Post Office, 43400 Serdang, Malaysia, Tel: 00603-9423891; Fax : 00603-9487655; e-mail : IPGRI@cgenet.com.

[Abstracted from IPGRI-APO Newsletter, No. 24, 1997]

APAARI ON INTERNET

The readers can now surf the APAARI Homepage available at <http://www.cgiar/isan/hosted/apaari/index1.htm>. It provides an insight into the activities of APAARI – about its mandate/objectives, strategies and action plan, executive committee and membership; information on Success Stories, Regional Networks, Expert Consultations, Publications and Newsletter. Fair use of this material is encouraged; this will facilitate inter-institutional communication.

APAARI PUBLICATIONS

SUCCESS STORIES

- Baby Corn Production in Thailand (1994/1)
by Dr. Chamnan Chutkaew and
Dr. R.S. Paroda
- Tilapia Farming in the Philippines (1994/2)
by Dr. Rafael D. Guerrero III
- Hybrid Rice in China (1994/3)
by Mr. Lou Xizhi and Dr. C.X. Mao
- Dairying in India (1994/4)
by Dr. R.P. Aneja
- Hybrid Cotton in India (1995/1)
by Dr. A.K. Basu and Dr. R.S. Paroda
- Palm Oil Industry in Malaysia (1995/2)
by Dr. Y.B. Basiron
- Transformation in Korean Farming (1996/1)
by Dr. Chae Yun Cho
- Cotton Production in Pakistan (1996/2)
by Dr. Badruddin Soomro and
Dr. Parvez Khaliq
- Orchids in Thailand (1997/1)
by Dr. Kanchit Thammasiri
- Wheat Production in Iran (1997/2)
by Dr. Abbas Keshavarz and
Dr. M.J. Mirhadi
- Agro-Tourism in Australia (1997/3)
by Dr. Tom Connors
- Direct Seeded Rice in Malaysia (1998/1)
by Dr. Cheong Ah Wah
- Groundnut in China (1998/2)
by Dr. Duan Shufen, Dr. Hu Wenguang
and Dr. Sui Qingwei

OTHER PUBLICATIONS

Proceedings of the Fourth Executive Committee Meeting and Expert Consultation on Management and Strengthening of Research Networks in the Asia-Pacific Region, October 19-21, 1997, Tehran, Iran.

APAARI Newsletter (June 1998) issue.

*APAARI Wishes all its
Members and Readers
a Very Happy and
Prosperous New Year*



FUTURE CONFERENCES

- | | |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Title | : Regional Workshop on Collecting, Maintaining, Sharing and Funding of Plant Genetic Resources in the Pacific |
| Venue | : Lae, Papua New Guinea |
| Period | : 30-31 March 1999 |
| Contact | : Dr. P.N. Lal, Regional Program Manager, Agriculture & National Business Economics, ACIAR, ACIAR House, Traeger Court, Fern Hill Park, Bruce ACT, 2617, Australia |
| Tel | : 61 2 62170531; Fax : 61 2 62170501 |
| E-mail | : phal@aciarc.gov.au |
| Title | : The 4th Intl. Heritage Seed Conference |
| Venue | : Perugia, Italy |
| Period | : 23-28 May 1999 |
| Contact | : Prof. Mario Facinelli, Instituto de Miglioramento Genetico Vegetale, Faculta di Agraria, Universita degli Studi, di Perugia, Borgo XX, Giugno 74, 06100, Perugia, Italy. |
| Phone | : 0039(75) 585-6205, Fax : 0039(75) 585-6224 |
| E-mail | : imgv@gegeo.unipg.itx |
| Title | : 10th International Soil Conservation Organisation Conference: Sustaining the Global Farm |
| Venue | : Purdue University, West Lafayette, Indiana, USA |
| Period | : 23-28 May 1999 |
| Contact | : Dr. Mark Nearing, Purdue University, 1196 Soil Building, West Lafayette, Indiana 47907-1196, USA |
| Phone | : 00765-494-8673, Fax : 00765-494-5948 |
| E-mail | : isco99@ecn.purdue.edu |
| Title | : World Soybean Research Conference VI |
| Venue | : Illinois, USA |
| Period | : 4-7 August 1999 |
| Contact | : Dr. Harold Kauffman, Chairman WSRC VI, University of Illinois, 1101 West Peabody, Room No. 165, Urbana, IL 61810 |
| Phone | : 00217-244-7384, Fax : 00217-244-1707 |
| E-mail | : lsf99@uiuc.edu |
| Title | : The World Seed Conference |
| Venue | : Cambridge, USA |
| Period | : 6-8 September 1999 |
| Contact | : ISTA, Cambridge, UK |
| Title | : International Symposium on Tropical and Subtropical Fruits |
| Venue | : Cairns, Queensland, Australia |
| Period | : 27 November - 1 December 1999 |
| Contact | : Dr. Rod Drew, ISHS Fruit Symposium, School of Biomolecular and Biomedical Science, Faculty of Science, Griffith University, Nathan, Qld 4119, Australia |
| Phone | : 00617-3875-9656 |
| E-mail | : R.Drew@set.gu.edu.au |
| Title | : 3rd Intl. Crop Science Congress 2000 |
| Venue | : CCH Congress Centrum Hamburg, Germany |
| Period | : 17-22 August 2000 |
| Contact | : CCH-Congress Organisation, P.O. Box 3024-80, D-20308, Hamburg, Germany |
| Phone | : 0049-040-3569-2248 |
| Fax | : 0049-040-3569-2269 |

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