Expert Consultation on Strengthening Regional Agricultural Information System: Role of ICT in ARD

Session on the Status of Regional Research Networks

Special Session on Establishment of Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB)

and

The Seventh APAARI Executive Committee Meeting

1-4 December 2003, Asian Institute of Technology, Bangkok, Thailand

PROCEEDINGS

Asia-Pacific Association of Agricultural Research Institutions
FAO Regional Office for Asia and the Pacific
39 Phra Atit Road, Bangkok 10200, Thailand
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National Agricultural Research Systems (NARS) in the Asia-Pacific region are increasingly focusing their attention on newly emerging technologies such as information and communication technologies (ICT) and agricultural biotechnologies to fulfill their role as apex research organizations addressing problems of national food security, poverty alleviation, rural development and environmental-sustainability. Facing resource constraints due to declining public expenditure for ARD, NARS also recognize the importance of research networking at sub-regional, regional and international levels. Some of these efforts are now beginning to show results in the form of increased agricultural production in the region and fewer incidences of hunger and malnutrition. However, considerable technological disparity exists in many parts of the region, posing serious challenge to required development in the agriculture sector as it transforms from a sustenance activity to commercial enterprise.

The Asia-Pacific Association of Agricultural Research Institutions (APAARI), an apolitical regional forum, has been promoting appropriate use of emerging technologies and tools in the region. APAARI, since its establishment in 1991, has organized several expert consultations and has facilitated the establishment of the regional research networks by bringing together NARS and diverse stakeholders.

This expert consultation was the third organized by APAARI on Role of ICT in ARD, and it assessed the progress made by various NARS; looked at the existing opportunities for enhancing the role of ICT in ARD; and discussed as to how Asia-Pacific Agricultural Research Information System (APARIS), an APAARI initiative, could serve the NARS in meeting their information management needs. Global Forum on Agricultural Research (GFAR) provided partial financial support to organize the expert consultation.

Also, in a parallel session, the progress of various regional research networks was reviewed in order to devise strategy to further strengthen these research networks. A special session also discussed the issues related to the establishment of Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB), a new initiative of APAARI in collaboration with Asia-Pacific NARS, FAO, GFAR, ISNAR, and several other international and regional entities representing foundations, NGO's, and the private sector.

These proceedings report the deliberations of the Expert Consultations and the Seventh Executive Committee meeting of APAARI, which was held following the expert consultations. We express our thanks to the participants for providing their inputs and sharing information. We hope that this well synthesized report will be useful to all the APAARI stakeholders as well as to ICT experts and concerned institutions/organizations engaged in agricultural research.

(R.S. Paroda)
Executive Secretary
### List of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AARINENA</td>
<td>Association of Agricultural Research Institutions in the Near-East and North Africa</td>
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<tr>
<td>ACIAR</td>
<td>Australian Centre for International Agricultural Research</td>
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<td>ADB</td>
<td>Asian Development Bank</td>
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<tr>
<td>AFITA</td>
<td>Asian Federation for Information Technology in Agriculture</td>
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<tr>
<td>AGRIS</td>
<td>International Information System for the Agricultural Sciences and Technology</td>
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<td>AIT</td>
<td>Asian Institute of Technology</td>
</tr>
<tr>
<td>APAARI</td>
<td>Asia-Pacific Association of Agricultural Research Institutions</td>
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<tr>
<td>APAFRI</td>
<td>Asia-Pacific Association for Forestry Research Institutions</td>
</tr>
<tr>
<td>APAN</td>
<td>Asia-Pacific Advanced Network</td>
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<tr>
<td>APARIS</td>
<td>Asia-Pacific Agricultural Research Information System</td>
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<td>APCoAB</td>
<td>Asia-Pacific Consortium on Agricultural Biotechnology</td>
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<tr>
<td>APRTC</td>
<td>Asia-Pacific Regional Technology Center</td>
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<td>APSA</td>
<td>The Asia and Pacific Seed Association</td>
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<td>ARD</td>
<td>Agricultural Research for Development</td>
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<td>AREO</td>
<td>Agricultural Research and Education Organization</td>
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<tr>
<td>AROW</td>
<td>Agricultural Research on the Web</td>
</tr>
<tr>
<td>ASTI</td>
<td>Agricultural Science and Technology Indicators</td>
</tr>
<tr>
<td>AVRDC</td>
<td>Asia Vegetable Research and Development Centre</td>
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<tr>
<td>BARC</td>
<td>Bangladesh Agricultural Research Council</td>
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<tr>
<td>BAR</td>
<td>Bureau of Agricultural Research</td>
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<tr>
<td>CAAS</td>
<td>Chinese Academy of Agricultural Sciences</td>
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<tr>
<td>CABI</td>
<td>Centre for Agricultural Bioscience International</td>
</tr>
<tr>
<td>CAC</td>
<td>Central Asia and Caucasus</td>
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<tr>
<td>CARP</td>
<td>Sri Lankan Council for Agricultural Research Policy</td>
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<tr>
<td>CASREN</td>
<td>Crop-Animal System Research Network</td>
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<td>CGIAR</td>
<td>Consultative Group on International Agricultural Research</td>
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<tr>
<td>CIFOR</td>
<td>Centre for International Forestry Research</td>
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<tr>
<td>CIMMYT</td>
<td>International Maize and Wheat Improvement Centre</td>
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<tr>
<td>CIRAD</td>
<td>Centre de Coopération Internationale en Recherche Agronomique pour le Développement</td>
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<tr>
<td>CLAN</td>
<td>Cereals and Legumes Asia Network</td>
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<td>COA</td>
<td>Council of Agriculture</td>
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<td>CP</td>
<td>Challenge Programmes</td>
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<td>CORRA</td>
<td>Council for Partnership on Rice Research in Asia</td>
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<td>CWANA</td>
<td>Central and West Asia and North Africa</td>
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<td>DOA</td>
<td>Department of Agriculture (Thailand)</td>
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<td>DSG</td>
<td>Donor Support Group</td>
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<td>EGFAR</td>
<td>Electronic Global Forum on Agricultural Research</td>
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<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
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<td>FAO-RAP</td>
<td>FAO Regional Office for Asia and the Pacific</td>
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<td>FARA</td>
<td>Forum for Agricultural Research in Africa</td>
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<td>FORAGRO</td>
<td>Foro Regional de Investigacion y Dessarrollo Tecnologico Agropecuario</td>
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<td>GFAR</td>
<td>Global Forum on Agricultural Research</td>
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<td>GMO</td>
<td>Genetically Modified Organisms</td>
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<td>GoFAR</td>
<td>Group on Fisheries and Aquaculture Research</td>
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<td>HRD</td>
<td>Human Resource Development</td>
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<tr>
<td>IARC</td>
<td>International Agricultural Research Centre</td>
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<tr>
<td>ICAR</td>
<td>Indian Council of Agricultural Research</td>
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<tr>
<td>ICARDA</td>
<td>International Centre for Agricultural Research in the Dry Areas</td>
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<tr>
<td>ICBA</td>
<td>International Centre for Biosaline Agriculture</td>
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<tr>
<td>ICIMOD</td>
<td>International Centre for Integrated Mountain Development</td>
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<tr>
<td>ICLARM</td>
<td>International Centre for Living Aquatic Resources Management</td>
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<td>ICM</td>
<td>Information and Communication Management</td>
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<tr>
<td>ICRI SAT</td>
<td>International Crops Research Institute for the Semiarid Tropics</td>
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<tr>
<td>ICT</td>
<td>Information and Communication Technologies</td>
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<tr>
<td>Acronym</td>
<td>Full Name</td>
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<td>ICT-KM</td>
<td>Information and Communication Technologies – Knowledge Management</td>
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<td>ICUC</td>
<td>International Centre on Underutilized Crops</td>
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<td>IFPRI</td>
<td>International Food Policy Research Institute</td>
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<tr>
<td>ILRI</td>
<td>International Livestock Research Institute</td>
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<tr>
<td>INGER</td>
<td>International Network for Genetic Evaluation of Rice</td>
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<td>INP</td>
<td>Information Nodal Point</td>
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<tr>
<td>INRM</td>
<td>Integrated Natural Resource Management</td>
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<td>IPGRI</td>
<td>International Plant Genetic Resources Institute</td>
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<tr>
<td>IPGRI-APO</td>
<td>IPGRI Regional Office for Asia, the Pacific and Oceania</td>
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<tr>
<td>IPM</td>
<td>Integrated Pest Management</td>
</tr>
<tr>
<td>IPR</td>
<td>Intellectual Property Rights</td>
</tr>
<tr>
<td>IRRI</td>
<td>International Rice Research Institute</td>
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<tr>
<td>ISNAR</td>
<td>International Service for National Agricultural Research</td>
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<td>ISAP</td>
<td>Indian Society of Agribusiness Professionals</td>
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<tr>
<td>IWMI</td>
<td>International Water Management Institute</td>
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<tr>
<td>JIRCAS</td>
<td>Japan International Research Centre for Agricultural Sciences</td>
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<tr>
<td>KISS</td>
<td>Knowledge and Information Systems networking proposal</td>
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<td>KRS</td>
<td>Koronivia Research Station (Fiji)</td>
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<td>LKS</td>
<td>Lesser Known Species</td>
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<td>MAFFM</td>
<td>Ministry of Agriculture, Forests, Fisheries and Meteorology (Western Samoa)</td>
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<tr>
<td>MARD</td>
<td>Ministry of Agriculture and Rural Development (Vietnam)</td>
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<tr>
<td>MARDI</td>
<td>Malaysian Agricultural Research and Development Institute</td>
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<tr>
<td>NACA</td>
<td>Network of Aquaculture Centres in Asia-Pacific</td>
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<tr>
<td>NARC</td>
<td>Nepal Agricultural Research Council</td>
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<td>NARI</td>
<td>National Agricultural Research Institute (Papua New Guinea)</td>
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<td>NARS</td>
<td>National Agricultural Research Systems</td>
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<td>NARS-SC</td>
<td>NARS-Steering Committee (GFAR)</td>
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<td>NGO</td>
<td>Non-Governmental Organization</td>
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<tr>
<td>NINP</td>
<td>National Information Nodal Point</td>
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<td>NRM</td>
<td>Natural Resource Management</td>
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<td>PARC</td>
<td>Pakistan Agricultural Research Council</td>
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<tr>
<td>PCCARD</td>
<td>Philippine Council for Agriculture, Forestry &amp; Natural Resources Research and Development</td>
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<td>PGR</td>
<td>Plant Genetic Resources</td>
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<td>R&amp;D</td>
<td>Research and Development</td>
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<td>RAIS</td>
<td>Regional Agricultural Information System</td>
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<td>RDA</td>
<td>Rural Development Administration (South Korea)</td>
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<td>RECSEA</td>
<td>Regional Cooperation in South East Asia on PGR</td>
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<td>RWC</td>
<td>Rice-Wheat Consortium</td>
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<td>SAARC</td>
<td>South Asia Association for Regional Cooperation</td>
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<tr>
<td>SANPGR</td>
<td>South Asia Network on Plant Genetic Resources</td>
</tr>
<tr>
<td>SEARCA</td>
<td>Southeast Asian Regional Centre for Graduate Study and Research in Agriculture</td>
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<tr>
<td>SPC</td>
<td>South Pacific Commission</td>
</tr>
<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
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<tr>
<td>TAC</td>
<td>Technical Advisory Committee (of the CGIAR)</td>
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<tr>
<td>TAMNET</td>
<td>Tropical Asian Maize Network</td>
</tr>
<tr>
<td>UTFANET</td>
<td>Underutilized Tropical Fruits Asia Network</td>
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<tr>
<td>WAICENT</td>
<td>World Agricultural Information Centre</td>
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<tr>
<td>WANA</td>
<td>Western Asia and North Africa</td>
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PART I
Proceedings of the Expert Consultation on Strengthening Regional Agricultural Information System

BACKGROUND

Enhanced information exchange among the Asia-Pacific national agricultural research systems (NARS) is one of the primary objectives of the Asia-Pacific Association of Agricultural Research Institutions (APAARI). In the early years of APAARI inception (1991-1995), also the pre-internet era, print publications were the primary medium of information dissemination. In 1995, APAARI prepared its Perspective Plan that emphasized the use of newly emerging technologies to further improve information management in NARS. Following the publication of the Perspective Plan, internet and digital technologies were identified as tools that can play a significant role in facilitating information networking among member NARS and other stakeholders. Subsequent General Assemblies (1996 and 1998) further stressed on effective use of ICT for information management. Consequently, APAARI with ACIAR support appointed an Information Technology Manager at its secretariat who established the initial APAARI web site in 1999 and several APAARI publications were put on it. A compact disk (CD) containing 17 APAARI Success Stories was developed and distributed widely to serve those who lacked fast internet access. Efforts to establish research databases were initiated with significant contributions from National Information Nodal Points (NINPs) in the Asia-Pacific region. To take the ICT initiative further, in November 2000 and October 2002, APAARI organized expert consultations on development of Asia-Pacific Agricultural Research Information System (APARIS). These consultations, attended by NINPs, representatives of APAARI members and stakeholder organizations, enabled APARIS to evolve from a simple concept into a basic framework of information resources for agricultural research for development (ARD), made available through APAARI web site. Keeping these developments in view, the present expert consultation was organized, with partial financial support from GFAR under the Global-RAIS initiative, to take stock of the situation and identify new activities to build capacity at the NINP level for further promotion of ICT in ARD and explore opportunities that exist to strengthen APARIS.

For the past several years, APAARI has been promoting various regional research networks for research information and material sharing among the ARD stakeholders. Concurrently with the ICT expert consultation, the coordinators of these networks were invited to present status reports and develop recommendations for further strengthening research networking in the region in a parallel session.

Following the recommendations of earlier meetings, a special session also discussed the issues related to the establishment of Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB), a new initiative of APAARI in collaboration with Asia-Pacific NARS, FAO, GFAR, ISNAR, and several other international and regional entities representing foundations, NGO’s, and the private sector.

The Expert Consultations on Strengthening Regional Agricultural Information System: Role of ICT in ARD and Status of Regional Research Networks and Consortia were held from 1-3 December 2003 at the Asian Institute of Technology, Bangkok, Thailand according to the program given as Annexure-I and were attended by participants listed in Annexure-II. There were about seventy participants from member NARS, associate member institutions and other regional and international organizations. Also there were representatives from other regional fora such as AARINENA and FARA. Some special invitees also participated in these consultations.

INAUGURAL SESSION

Dr. Nurul Alam, Vice Chairperson, APAARI initiated the inaugural session by welcoming the participants. Prof. Mario Tabucanon, Provost of AIT also welcomed all the participants and thanked APAARI for choosing AIT as the host institution for the expert consultations. Dr. Raj Paroda, Executive Secretary of APAARI presented the objectives of the expert consultations and welcomed dignitaries including Dr. Mutsuo Iwamoto, Chairperson of APAARI; Dr. Mohammad Roozitalab, Chairperson of GFAR; Mr. Hiroyuki Konuma, FAO Deputy Regional Representative for Asia and the Pacific; Prof. Mario Tabucanon, Provost of AIT; Dr. Nural
Alam, Vice-Chairperson of APAARI; Dr. Jean-Francois Giovannetti, Senior ICT Expert of GFAR; and Heads of NARS and CG Centers.

Dr. Paroda informed that APARIS and APCoAB were the two major initiatives being taken up by APAARI as they strategically focus on two rapidly emerging technologies, information and biotechnology, both having immense potential to transform agriculture in favor of the resource-poor farmers of the region. He appreciated and thanked for the partnerships of FAO, GFAR, CGIAR institutes and other organizations with APAARI and hoped that the present consultation will result in defining a collaborative action plan, also involving various member NARS, to build capacity at the NINP level for further promotion of ICT in ARD in the region. He stressed the need for NARS to examine and revise their information and communication management (ICM) models to harness the benefits offered by new IT tools and techniques. He added that the other important objectives of the expert consultation were to review the progress of various research networks presently under operation and also to explore the possibilities of establishing a Consortium on Agricultural Biotechnology (APCoAB) to ensure that the needed benefits from new sciences reach the society.

Dr. Mohammad Roshitalab, Chairperson of GFAR, in his special remarks recognized the progress made by APAARI in developing a regional agricultural information system that could potentially serve as an example for some other regions. He reiterated GFAR’s support to all regional forums for developing such systems and urged all regional forums to work together in evolving a global agricultural information system.

On behalf of the Assistant Director-General and Regional Representative for Asia and the Pacific of FAO, Mr. Hirokyuki Konuma, FAO Deputy Regional Representative for Asia and the Pacific in his special remarks cautioned that the opportunities offered by new information and communication technologies (ICTs) have yet to reach the majority of potential users in the world due to increased disparity between users who have the means to access information and those who do not such facilities. He introduced FAO’s initiatives such as WAICENT and AGRIS programs and called for greater use of these tools by NARS. He praised APAARI’s efforts and assured continued FAO-RAP support for APARIS and APCoAB initiatives.

Dr. Jean-Francois Giovannetti, Senior Expert of GFAR, remarked that GFAR is working with all regional forums to find commonalities and to build on agricultural information systems for ARD using inter-regional synergies. He emphasized the need for closer look at information and communication management in NARS as well as regional forums.

Dr. Paroda invited Dr. Mutsuo Iwamoto, Chairperson of APAARI to release the publication of recently revised APAARI Constitution and Mr. Hirokyuki Konuma, FAO Deputy Regional Representative for Asia and the Pacific to release the publication of Success Story on Control of Newcastle Disease in Village Chickens, the nineteenth in the popular series by APAARI.

Dr. Mutsuo Iwamoto, Chairperson of APAARI delivered the Chairperson’s address in which he welcomed all the participants and thanked FAO for providing a base for APAARI at its regional office in Bangkok and acknowledged AIT for providing excellent facilities for the expert consultation. He hoped for more active cooperation from all partners so that APAARI can continue to strive hard for fostering regional cooperation through various networks and consortia for ARD. He stated that increasing agricultural productivity, while conserving natural resources and reducing the cost on input use, is a major challenge and biotechnology offers tremendous opportunity in this context. He concluded his address with a call for valuable inputs and support of all participating organizations to APAARI for further strengthening APARIS and APCoAB.

Mr. Somchai Charnnarongkul, Deputy Director General, Department of Agriculture, the Royal Government of Thailand, read the speech of H.E. Mr. Newin Chidchop, Deputy Minister for Agriculture and Cooperatives, the Royal Government of Thailand, who could not attend the inaugural session due to other out-of-town commitments.

Mr. P. K. Saha, FAO Liaison Officer for APAARI, delivered the vote of thanks for the participants and the organizers.
SESSION I: Global and Regional Initiatives for ICT in ARD

Chairperson: Dr. Behzad Ghareyazie, Former Deputy Minister for Agriculture, Iran
Co-chairperson: Prof. H.P.M. Gunasena, Executive Director, CARP

A Global Agenda for ICT in ARD
Dr. Jean-François Giovannetti, Senior Expert, GFAR

The GLOBAL RAIS initiative of GFAR and its activities were explained. Under this initiative GFAR will partially support a series of five regional and one inter-regional workshops/consultations in order to develop a global agenda for ICM in ARD. Lessons learned so far through this exercise included: identification of information providers/users in a global network of information reservoirs, decentralized nature of information production/management, and essential components of a RAIS such as a relational database of institutions, experts, projects/activities and events. The need for a regional information gateway was identified as a clearing-house function and also value addition in the RAIS at the regional level.

Status Report on APARIS
Dr. Sahdev Singh, Assistant Executive Secretary, APAARI

The background, development phases, challenges encountered, and current activities of APARIS were presented. The role of NINPs in the development of APARIS was highlighted and their continuous involvement was shown to be critical to its functioning. More active intervention of the APARIS Steering Committee was sought to guide and monitor the development of APARIS. The current activities and value additions in APARIS were described. It was emphasized that APARIS, being one of the first few relatively well-structured regional systems, offered a significant learning value to other upcoming regional systems, particularly the participatory approach adopted in its development. APARIS experience thus need to be shared by other regions.

Review of RAIS Strategy in WANA Region
Dr. Ahmed Rafea, AARINENA

The historical background, framework of action to develop the WANA/RAIS on the national and regional levels, implementation plan, collaborative programs, implementation priorities, the project proposal to implement phase one of the plan, and the current status of the AARINENA-RAIS were discussed. Planning of AARINENA-RAIS began in 2000 and its activities accelerated after the GFAR-supported RAIS Workshop in February 2003. Currently a need-assessment is being carried out at national level under phase one of the action plan approved by the Steering Committee in July 2003.

FARA’s Role in Strengthening Regional ICT
Ms. Myra Wopereis-Pura, FARA

Brief background on FARA, Africa’s ICT on AR4D, progress on ICT in Africa’s AR4D, and FARA’s approach to ICT were briefly presented. Since the FARA-RAIS is still in its planning stages, the need for greater cooperation from other regional RAIS and international organizations was considered important. GFAR-supported RAIS Workshop for the FARA region is planned for the early part of 2004.
Session II: NARS Status Reports

Chairperson: Dr. Ashraf Tanvir, Director Scientific Information, PARC
Co-chairperson: Dr. Paul Teng, Deputy Director General, The World Fish Center

BARC, Bangladesh
Mr. Mostaque Ahmed, Principal Librarian, BARC

General information about Bangladesh agriculture and government’s ICT policy was presented. Proposed initiatives include utilization of ICT in agro-based industry, information dissemination on agricultural technology, agribusiness development, and database on agricultural information. The web sites of research institutes operating under BARC, and SAIC information resources were demonstrated.

ICAR, India
Dr. A. K. Jain, Assistant Director General (ARIS), ICAR

A comprehensive presentation on ICAR’s ARIS was made. Its development strategy, components, and impact were elaborated upon. Various databases developed under ARIS were listed. ICAR’s efforts on computerization of its major activities and networking of various research institutes, universities, and extension services operating under ICAR were found to be increasing the use of e-mail communication and electronic documentation among the ARD professionals.

AREO, Iran
Ms. Aisel Gharedaghli, Computer & Networking Administrator, AREO

Government’s ICT policy was explained in general. Agricultural Scientific & Documentation Center (ASDC) was identified as the main agency offering scientific services to agricultural institutes and universities using internet and intranet.

NARC, Nepal
Mr. Bhola Man Singh Basnet, Chief of Communication, Publication & Documentation Division, NARC

Due to unique geography of Nepal, the physical networking of various research institutes and stations was cited as the main obstacle for wider application of internet-based communication mechanisms. However, NARC is working on alternative ways of communication such as agriculture-oriented TV and Radio programs and CD publications.

CARP, Sri Lanka
Prof. H.P.M. Gunasena, Executive Director, CARP

Under the new agricultural research policy of CARP, several initiative to promote ICT in ARD have been undertaken. Individual institutes have developed their own web sites and work is under progress on electronic bibliographic databases, scientific personnel database, and electronic documentation of contract research abstracts for the period 1990-2000.

PCARRD, Philippines
Dr. Patricio S. Faylon, Executive Director, PCARRD

PCARRD’s ICT program components supporting R&D management, technology management, capability building, policy advocacy and awareness; commodity information network; e-governance; open academy for Philippine agriculture; and e-Libraries were demonstrated.
**MARDI, Malaysia**
Dr. Kamarudin Saadan, Director, Information Resources Management Division, MARDI

Knowledge-based agriculture is the main thrust of new agriculture policy of the government and dissemination of vast amount of research information to all stakeholders is considered the main challenge. The e-commerce initiatives in the agriculture sector were the main highlight of the presentation.

**Session II (contd…): NARS Status Reports**

*Chairperson: Dr. R.N. Sapkota, Executive Director, NARC
Co-chairperson: Dr. William Padolina, Deputy Director General, IRRI*

**JIRCAS, Japan**
Prof. Seishi Ninomiya, National Agriculture Research Organization

Technical aspects of developing agricultural information systems illustrated through relevant examples from Japanese agriculture were discussed. Suggested key points for a RAIS included: efficient data collection, avoidance of dead storage of data, efficient data sharing and utilization through a Distributed Data Grid, multilingual information exchange, effective knowledge management, user-friendly system, linkage to e-business, and easy maintenance and cost reduction.

**PARC, Pakistan**
Dr. Ashraf Tanvir, Director Scientific Information, PARC

General information about Pakistan agriculture and agriculture-related web sites developed by PARC institutes/universities were presented. A list of databases offered by PARC was also provided and current emphasis on “virtual library” concept was highlighted.

**RDA, Republic of Korea**
Dr. Keun-Seop Shim, Senior Researcher, Informatics Division, RDA

The Urban-Rural digital divide was analyzed using various parameters. RDA’s multi-pronged ICT strategy includes: bioinformatics, precision agriculture and mechatronics, e-AgCommerce, cyber extension and education system. Need for greater cooperation among regional NARS for the promotion of information sharing was discussed.

**COA, Taiwan**
Ms. Jane Lin, Chief of Information Management, COA

Promoting the computerization of agricultural wholesale market, network covering farmers’ organization, information portals on food safety, and ICT capacity building at the farm level were presented as salient features of e-agriculture initiative of COA.

**DOA, Thailand**
Mr. Somchai Charnnarongkul, Deputy Director-General, DOA

The components of three-year master plan of DOA were presented. The plan puts emphasis on R&D for crops to enhance commercial competitiveness, food security and safety, and basic and applied R&D in agriculture.
IAC, New Caledonia
Mr. Thierry Mennesson, Director General, IAC

General information about telecommunication infrastructure of New Caledonia and IAC’s website (available in French) were presented.

MARD, Vietnam
Dr. Nguyen Van Bo, Director General, Department of Science, Technology & Product Quality, MARD

MARD website (available in Vietnamese) provides information on research system organization, agricultural scientists, research projects and results, S&T publications, advanced technologies, and national and ministerial standards. Challenges facing ICT in Vietnam ARD were discussed.

MAFF, Western Samoa
Mr. Matalavea Siaosi, Principal Research Officer, MAFF

ICT in ARD is in early stages of development in Western Samoa, an isolated Pacific Island country.

Discussion

Session Chair invited comments on NARS Status Reports presented in Session II from Dr. Paroda and Dr. Giovannetti. Dr. Paroda congratulated the NINPs and NARS leaders for their informative presentations on status of ICT in their respective NARS and felt that these would serve a meaningful purpose in identifying strengths and weaknesses in the current implementation strategies for ICT/ICM in ARD. He urged NARS leaders to be more supportive of ICT initiatives and NINPs to be proactive as strengthened information exchanges both within and among the NARS of the region will benefit all the stakeholders. He also informed that the status reports prepared by NINPs of member NARS would help APAARI for the upcoming publication entitled “Role of ICT in ARD: Status and Progress in the Asia-Pacific Region.” The publication is under preparation with support from FAO-RAP and ISNAR and due to be out in 2004. Dr. Giovannetti remarked that presentations reflected a healthy portfolio of information on ICT/ICM in NARS of the Asia-Pacific Region and considered it as a necessary exercise for further articulating a global agenda on ICM in ARD.

Session III: Demonstrations on Existing ICT Opportunities

Chairperson: Prof. Gajendra Singh, AIT
Co-chairperson: Dr. Jean-Francois Giovannetti, GFAR

FAO ICM Models and Tools
Mr. Michael Riggs, FAO-RAP

FAO’s strategic framework for agricultural information management and dissemination through World Agricultural Information Centre (WAICENT) was outlined. WAICENT enables member nations to access agricultural information essential for reducing poverty, achieving food security and sustainable rural development. WAICENT acts as a clearing-house for information, establishes norms and methodologies for quality; develops standard categorization schemes; implements metadata for efficient storage, dissemination, search and retrieval. WAICENT also provides an intergovernmental forum for members and outreach for agricultural development, food security and capacity building through transfer of best practices in information management systems and tools development to national and international information providers. FAO’s AGRIS, IMARK, VERCON, Virtual Library, and various capacity building programs were also introduced.
ICT-KM Program of the CGIAR  
Ms. Enrica Porcari, CGIAR

CGIAR’s vision for the next five years, which revolves around greater use of ICT in knowledge management, was presented. CGIAR envisions to be an organization without boundaries, a leading provider of educational content, one of the most authoritative and highly visible information sources on international agricultural issues, an internationally distributed but unified Knowledge Organization, an essential partner in collaborative international agricultural research by allowing all staff to have access to high capacity computing and communication. The main projects and thrusts to achieve these objectives are ICT for Tomorrow’s Science, Content for Development, and a CGIAR without Boundaries.

ISNAR ICM Models and Tools  
Dr. Ajit Maru, ISNAR

ISNAR’s information resources, available in English, French and Spanish, are classified as Products and Services, which are delivered through printed and digital media. These resources, including Databases, Catalogues, Indexes, Search Engines, Archives, and a Virtual Library, cover a wide range of topics relevant to NARS. ISNAR also offers capacity building support to NARS through training programs and materials.

Virtual Academy for Semi-Arid Tropics (VASAT)  
Dr. V. Balaji, ICRISAT

The VASAT is a strategic coalition of partners with dry land farm communities and intermediaries as its core focus. The coalition includes international agricultural research centers, advanced research institutes, national open universities, national agriculture and extension systems, international development organizations, civil society organizations and community-based groups. It aims to mobilize communities and intermediaries of the dry tropics by sharing information, knowledge and skills related to climate literacy, drought preparedness, and best practices in dry land agriculture and other relevant issues. VASAT does this through an innovative interface of ICTs and distance learning. VASAT’s main focus is creating demand-driven content that can be easily utilized by rural communities and intermediaries; content that balances generic and location-specific information. The ultimate goal is to convert scientific know-how into field-level do-how.

APAN Agricultural Working Group  
Dr. Seishi Ninomiya, NARO

Asia-Pacific Advanced Network (APAN) is a non-profit international consortium established on 3 June 1997 with a mission to prepare high performance network services for research and education and accelerate collaborations in the Asia-Pacific research and education communities. It holds a meeting twice a year. APAN projects and programs cover Agriculture, Fishery, Forestry, Earth Monitoring & Disaster Warning, Meteorology, Bioinformatics and Biotechnology, Biological Diversity and Ecology, etc. Current participants include institutions from Australia, Bangladesh, Canada, China, Japan, India, Indonesia, Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, USA, Vietnam, IRRI, APRTC, WMO, FAO. Asian Federation of Information Technology in Agriculture (AFITA), founded in 1998, was also introduced.

Successful Global Research Databases: FishBase and ReefBase  
Dr. Paul Teng, The World Fish Center

FishBase and ReefBase were developed with an objective to create awareness of fish and provide information on various aspects of fisheries and aquaculture. Database development process faced several issues such as governance and ownership, mobilizing resources for sustained development and operation,
maintaining information current, and networking and access. It also addressed challenges of data and information explosion and quality.

APRTC- A Distance Education Initiative for ARD
Dr. Robert Raab, APRTC

Using a framework of Global and Local Agricultural Knowledge Systems, Asia-Pacific Regional Technology Centre (APRTC), a non-profit organization headquartered in Bangkok, Thailand, focuses on promotion of sustainable agriculture and natural resource management through ICT-based eLearning programs (agLe@rn) to upgrade the skills and knowledge of farmers and agricultural professionals. APRTC’s partners and collaborators include CropLife, WorldView International Foundation, IFDC - International Center for Soil Fertility and Agricultural Development, Tamil Nadu Agricultural University, University of Agricultural Sciences – Coimbatore, G.B. Pant University of Agriculture and Technology, Pantnagar, and Punjab Agricultural University, Ludhiana of India, Asia Pacific Advanced Network (APAN), ITC’s e-Choupal Initiative, Rockefeller Foundation, University of the Philippines, Los Banos, Kasetsart University of Thailand, and Japanese Ministry of Agriculture, Forestry and Fisheries Information Network (MAFFIN).

AIT’s ICT Capacity Building Programs
Dr. Charoon Chirapaisarnkul, Director, IT Unit, AIT Extension

AIT is an international graduate institution of higher learning with a mission to develop highly qualified and committed professionals who will play a leading role in the sustainable development of the region and its integration into the global economy. It has trained over 4,000 individuals in the region through its ICT related short-term education and non-degree training programs. It offers state of the art facilities and international resource persons specializing in a wide variety of academic fields. AIT has been associated with APAARI for the past several years and this partnership will continue to work in areas of mutual interest.

Private/NGO Initiatives in India
Mr. Sunil Khairnar, ISAP/AgriWatch.com

Indian Society of Agribusiness Professionals (ISAP), is a non-governmental organization operating 83 Information Centres throughout India to address the information needs of farmers. About 125,000 farmers have also become its members and are getting the benefit of up-to-date information on agricultural markets, weather, and best practices. ISAP is a unique experiment and its outcome makes following recommendations for increasing ICT based private initiatives:

- The government extension department should accept that they cannot reach 0.6 million villages on their own. The governments (state and center) should play the role of the enabler by harnessing the experience and expertise gained by the existing initiatives.
- Most of the successful initiatives have a critical component in its chain – the village level entrepreneur who invests in and runs the kiosks from where the services are disseminated. The government could play a decisive role here by
  - Ensuring availability of space at strategic locations (e.g., regulated markets)
  - Digitizing all available content available with Public Research Agencies
- For all the e-governance related initiatives/services, the administrative machinery at district level could play a key role by prioritizing the on-line conversion of as many services as possible and facilitating the usage of ICT delivery modes
- Providing Syndicated content from various govt. departments in the area of health, education and agriculture to the various initiatives on commercial terms
- Public Agencies should not compete with the services offered by small private entrepreneurs after they have launched their services at a particular location.
- Human Resource Training and Development on the lines of what is being executed by MANAGE in the context of Agri-clinics.
Session IV: Group Discussions on APARIS

This session was devoted to group discussions in the wider context of APARIS framework and functioning. Detailed guidelines and an APAARI working paper on APARIS were distributed to all the participants. Four groups, each focusing on one category of users, deliberated upon the following points:

1. Adequacy of APARIS framework to respond to this target audience.
2. New features/content/meta-content that could be added to APARIS to make it responsive to this target audience.
3. Role of NINPs: Features/content/meta-content that NINPs can directly contribute to APARIS for this particular audience?

The groups were assigned as follows:

**Group I**
ICT for Science & Technology Information (how to reach students/professionals)
Moderator: Dr. Jean-François Giovannetti, GFAR

**Group II**
ICT Networks of ARD Professionals (how to reach ARD professionals)
Moderator: Dr. Ajit Maru, ISNAR
Members: Mohammad Reza Moghim, Seishi Ninomiya, Ipul Prowseu, Delia Delfino, Keun-Seop Shim, SMP Chandra Padmini, Jane Lin, LT Hong, Paul Teng, JS Sindhu, CLL Gowda, Fulvia Bonaiuti, Aisel Gharedaghli, Satoru Miyata, Kenichi Hito, Matalavea Siaosi, Sim Heok-Choh, Sherali Numatov, PK Saha, Enrica Porcari

**Group III**
Extension through ICT (how to reach farmers)
Moderator: Dr. Malcolm Hazelman, FAO-RAP
Members: Bhola Man Singh Basnet, Sunil Khairnar, V Balaji, Maria Luz, Simon Wilkinson, Kamlesh Prakash, Nicomedes P. Eleazar, Margaret Yoovatana, L. T. Hong, Erna M. Lokollo, Eric Johnson, Myra Wopereis-Pura, Khairuddin Tahir

**Group IV**
ICT in Research Policy Formulation (how to reach ARD institutions)
Moderator: Dr. R.D. Ghodake, PNG
The moderated discussions resulted in defining the essential components of an agricultural information system at national, sub-regional, regional, and global levels; information exchange protocols among different levels; set of activities to be performed at various levels to have a functioning regional agricultural research information system; tools/technologies needed/available to have such a system, or how existing ICT initiatives of other ARD organizations can also be integrated with APARIS; and nature and level of commitment from individual NARS participating in APARIS and APARIS support group organizations, including GFAR, ISNAR, ACIAR, AIT, other CG Institutes, and FAO. Each group presented the outcome of various discussions as follows:

**Group I: ICT for Science & Technology Information Dissemination**

The group considered promotion of regional capabilities through APARIS for e-learning to target undergraduate students, graduate students, non-degree students, instructors, and professionals. The identified information needs of this audience were access to existing national agricultural universities' resources and access to existing e-learning resources at national and sub-regional levels. It was emphasized that APARIS stakeholders could help development of E-Course contents using English in the very beginning and translating these contents into local languages at a later stage. The potential of machine translation was also discussed.

APARIS could collect and/or update APARIS database related to universities and e-learning initiatives in the region, facilitate scaling up of successful e-learning initiatives, identify students and teachers demands for e-learning, develop guidelines for teachers to use APARIS in their courses, facilitate financial resources mobilization for developing and/or training on e–learning packages and technologies.

The suggested role of NINPs in this proposed initiative was to supply information to APAARI related to the universities, training institutes, and e-learning initiatives in the country, provide calendar of training events, and transfer of expertise of strong NINPS to other NINPS.

The group proposed the following action plan and the related means:

- Build an inventory of existing Agricultural Universities within the region
- Build an inventory of existing e-learning initiatives
- Work as a platform for identifying students, teachers and professional demands. This may be done through creating an e-forum on this subject and/or developing an on-line questionnaire
- Facilitate financial resources mobilization for developing and/or training on e–learning packages and technologies
- Facilitate e-learning technical packages identification

**Group II: ICT Networks of ARD Professionals**

The group agreed that ICT enables new forms of collaboration such as alliances, consortiums, on-line communities and networks of ARD professionals and the role of APARIS is primarily of intermediation with suitable value addition. The principles and frameworks for NAIS/RAIS/GAIS assume equity and homogeneity in contribution, availability, access, usefulness and relevance of information. This not the reality of the Asia-Pacific region. The parameters of inequity and heterogeneity must be considered for the success of APARIS.

Discussion point 1: Is APARIS Logical framework (2000) adequate to respond to this target audience?

No, it is inadequate. The APARIS role requires cooperation and collaboration from its members. The framework does not include this vital role. APARIS is to intermediate information sharing and exchange between its Institutional members and has to add value to the information shared and exchanged to be useful in the intermediation process. The APARIS role is not only technological and in content sharing and
exchange but of advocacy and in creating political will to use ICT to communicate and use agriculture related information effectively and efficiently among its members and their stakeholders in the Asia-Pacific Region. The suggestion put forward was that APAARI/APARIS should enable, foster and advocate collaboration, cooperation and coordination for effective and efficient agriculture related information flows in the Asia-Pacific region; capacity for information and communications management and content development; and capital investment in agricultural information systems at National, Regional and Global levels.

Discussion point 2: What new features/content/meta content could be added to APARIS to make it responsive to this target audience?
In addition to Institutes, Experts and Projects databases APARIS has to facilitate and mediate to foster cooperation in sharing and exchange of information on new technologies; access to Asian Scientific and Technical Information and “harvesting” of information not “hunting.” It should represent its stakeholders to discuss, mediate and negotiate data exchange standards; create an information repository for SPF (Specific Pathogen Free) and similar standards for Asia-Pacific region; enable collaboration for geo-referenced, weather/climate data, expert systems, decision support systems and models in the Asia-Pacific region; and enable collaboration to utilize capacity within APAARI members to generate content for the region.

Discussion point 3: What features/content/meta-content NINPs can directly contribute to APARIS for this particular audience?
NINPs must have greater exposure within their systems as representatives of APARIS and need further support from their systems to enable sharing and exchange information through APARIS. With introduction of ICT, there are new information flows and new ways to manage content in the NARS. This needs new capacity within the NARS to restructure. APARIS has to examine how NARS can be enabled with these capacities. With regard to the commitment of APARIS support group, the group felt that there is commitment by representatives of members and stakeholders. However, there is a very serious issue of diminishing funds to support existing information systems and networks to maintain and renew them. APAARI must raise this issue at all stakeholder/donor events. There will be a need for a well documented brief on this issue.

Group III: Extension through ICT

The discussion started with identification of farmers’ information needs and ICT based delivery channels for meeting these needs. In this context, the group suggested that APARIS cannot address localized needs due to language specificity and resources. It should address needs related to experts, production and post harvest technology with a focus on national, regional and international issues. It can facilitate digitization and aggregation of content in usable formats. Further, it should study and share best practices across the region.

Group IV: ICT in Research Policy Formulation

For agricultural policy formulation, planning and projection, R&D priority setting, and science & technology (S&T) management, the group identified information requirements, including macro level data, agricultural S&T indicators, social and environmental data. It was suggested that the information should be frequently updated, processed, formatted and summarized in a uniform language. APARIS could play a role of intermediary among NINPs (including Institutions), universities, ministries, statistical agencies, private sector and national and international agencies.

The group felt that the APARIS framework is adequate but requires more links and updating. It should have more information on research priorities at regional, sub-regional and national levels in a standardized format. The group recommended strongly the need for nomination of one full-time person for APARIS in each member institution.
Final Recommendations on Strengthening APARIS

Dr. Giovannetti presented a synthesis of the final recommendations emerging from four discussion groups, which are as follows:

1. Agriculture is becoming more knowledge-intensive as it becomes more market-oriented in a globalized world. The use of ICT is vital for accelerated growth in this agriculture.
2. In the Asia-Pacific region, there are several hot-spots of rural poverty (dominated by smallholders), information and knowledge sharing using conventional and new ICT together has great potential for improving agricultural productivity and alleviating poverty.
3. APARIS, as a RAIS and regional information intermediary, and APAARI as a regional organization, have critical roles in improving the efficiency and effectiveness of information and knowledge flows related to agriculture in the Asia-Pacific region.
4. Further enhance relations between NARS represented by NINPs and APARIS for greater collaboration in information exchange.
5. Build capacities among NINPs in ICT/ICM.
6. Improve APAARI's advocacy role in the area of ICM for ARD.
7. Identify ICT indicators and status of the NARS and member institutes.

It was stressed that a draft action plan based on above recommendations be reviewed by APARIS Steering Committee and modified accordingly before submission to APAARI Executive Committee for endorsement and subsequent follow up. All participants endorsed the need for strengthening APARIS and desired to have action plan implemented through effective partnership of all NINPs and stakeholders.

Concluding Remarks

Dr. Iwamoto, APAARI Chairperson, was invited to offer his concluding remarks. He endorsed the recommendations made in the plenary session. He further informed that JIRCAS will consider ways to support APAARI's ICT initiative through APAN.

Dr. Paroda thanked all the participants for their active participation and inputs. He remarked that diverse participation is APAARI's strength and the present gathering is an evidence of that. He informed that APAARI has come a long way in its core initiatives on ICT, research networking, and agricultural biotechnology though a focused and collaborative approach. He hoped that APARIS Steering Committee and NINPs will be more active in future and the APAARI collaboration with NARS, ACIAR, JIRCAS, APAN, and CG Centers will be further strengthened in near future. He also thanked Dr. Iwamoto, the APAARI Chairperson; Dr. Beltagy, the Session Chair; the NARS leaders; the heads of CG Centers present; AIT administration and staff, particularly Prof. Gajendra Singh; NINPs; invited participants; and the APAARI Secretariat staff.

Dr. Beltagy, in his concluding remarks stated that the participants have made significant contributions through their technical inputs. He suggested that the CG Centers will continue to work with NARS. He expressed satisfaction that the representatives from GFAR and other regional fora were also invited and presented their valuable inputs. He reiterated continued ICARDA support to APAARI in future.

Finally, Prof. Gajendra Singh thanked all the participants, his staff and APAARI members for making the meeting a success.
APARIS Steering Committee Meeting

The 2nd Steering Committee Meeting of APARIS was held at the Asian Institute of Technology on 3rd December 2003. Dr. R.S. Paroda chaired the meeting. The following were present:

Dr. A. Tanvir (NINP, Pakistan as Vice Chairperson), Dr. P. Faylon (Member), Dr. J. Giovannetti (GFAR), Dr. M. Hazelman (FAO), Dr. Gajendra Singh (AIT), Dr. A. Maru (ISNAR), Dr. Sahdev Singh (Secretary). The meeting observers included Dr. A.K. Jain (NINP, India), Mr. B.S. Basnet (NINP, Nepal), and Mrs. S. Padmini (NINP, Sri Lanka).

Dr. R.S. Paroda welcomed all the Steering Committee members and invited comments on the draft agenda of the meeting. The approved agenda of the meeting was:

1. Review the TORs of the APARIS Steering Committee
2. Reform the Steering Committee in view of vacancy of Chairperson
3. Review the APARIS Framework and prioritize activities from a list of ideas, concepts and recommendations that emerged at the 3rd Expert Consultation to develop an action plan for APARIS
4. Any other matter, by permission of Chair

Proceedings: The deliberations focused on the following:

1. The TORs of the Steering Committee were reviewed. The TORs were found to be quite adequate. However, it was felt that the Steering Committee should be more active in its oversight role in monitoring the progress of APARIS. This was accepted by the members and they agreed to be more regular in their communication and advisory role.
2. In view of the vacancy left by ACIAR, Australia as Chairperson and member of the Steering Committee, the Chair invited suggestions to fill the gap. After deliberations it was decided to invite Dr. Seishi Ninomiya of APAN to be the member of the Steering Committee and also to Chair the Steering Committee. Dr. Ninomiya has distinguished himself as being member-secretary of Asian Federation of Information Technology in Agriculture and as a representative of APAN. The nomination and decision to invite Dr. Ninomiya was accepted unanimously. It was also agreed that the term of the Steering Committee be for two years and be approved by the General Assembly of APAARI. Since next General Assembly will take place in December, 2004, it was agreed that same Steering Committee may continue for another one year, except for the change in Chairpersonship.
3. The APARIS framework was reviewed and an action plan for 2004 was developed as follows (responsible organization or person shown on right):

National Level:

3.1. Ensuring assignment of responsibilities to NINPs through NARS leaders – NARS Leaders
3.2. Redesign of NARS websites for information sharing and exchange - NINPs
3.3. Needs Assessment and Formulation of National ICT/ICM Proposals – NINPs to inform
3.4. Facilitating Mobilization of Funds for ICT and ICM – NINPs to inform

APARIS Level:

3.5. ICT Status Report – Dr. Sahdev Singh, Dr. Ajit Maru and Dr. Jean Francois Giovannetti
3.6. Brochure on ARD Information – APAARI Secretariat, ISNAR, FAO
3.7. Training of NINPs especially for least developed NARS – APAARI Secretariat
3.8. Orientation program for NARS Leaders – APAARI Secretariat and AIT (Dr. Gajendra Singh)
3.9. Regional proposal for seeking donor support – APAARI Secretariat

It was agreed that the Steering Committee will monitor the progress on each activity as listed in the framework and periodically report to APAARI Executive Committee. Dr. Paroda, as Chairperson, thanked the members and observers to the meeting for their participation and valuable suggestions.
Dr. Raj Paroda, Executive Secretary, APAARI, made a brief presentation relating to importance of research networks and the benefits being received by the member NARS. He emphasized that APAARI is laying considerable emphasis on strengthening of research networks since its establishment. It has identified priority areas and research gaps. Based on the interest of the member partners, a number of crops related Networks are making good progress mainly due to important facilitator function role played by the concerned CG centers in Asia-Pacific region. He also emphasized on the need for sustainability of such Networks, for which proactive role of NARS is highly critical.

Concerned Network Coordinators made presentations relating to the progress of their Networks, a brief account of which is presented here:

**CORRA**

Dr. William G. Padolina, Deputy Director General for Partnerships, IRRI highlighted the achievements of the Consortium on rice research in Asia. The CORRA had been meeting regularly and discussing issues relating to sharing of information, germplasm and policy matters relating to continued collaboration in the region. He also stated that CORRA deliberated on International Treaty on Plant Genetic Resources and also role of NARS relating to their involvement in three Challenge Programs initiated by the CGIAR. CORRA would like to support the building of Global Rice Germplasm Database and would appreciate continued discussion on IPR related issues. Dr. Padolina also informed that the year 2004 is being declared as International Year of Rice by the United Nations and efforts will be made to put rice back on global agenda. He also emphasized that IRRI would continue supporting CORRA and would like to have active involvement of APAARI in future.

**CLAN**

Prof. CLL Gowda, Global Theme Leader – Crop Improvement, ICRISAT, made a presentation on CLAN activities and highlighted the outcome of the recent Steering Committee Meeting held in Hyderabad where formal decision was taken to expand the scope of CLAN to include lentil and mungbean through active participation of ICARDA and AVRDC, respectively. CLAN is proposing to prepare a Concept Paper jointly with ICARDA and AVRDC for getting some donor support since importance of legumes is critical both for nutritional security and sustainability of the cropping systems. Dr. Gowda also emphasized about important role of APAARI in providing support to CLAN and expected to have similar support in future. Dr. William Dar, Director General, ICRISAT also assured of his support for strengthening collaboration with NARS through CLAN and expected that required expectations of all stakeholders would be fully met.

**GoFAR**

Dr. Modadugu V.Gupta, Assistant Director General, World Fish Center, highlighted the important role of GoFAR and its complementarity with other Networks. He mentioned that priority areas for research collaboration have been identified by the GoFAR and efforts are also on way for genetic improvement of various fish breeds and for wide knowledge dissemination among member NARS. He highlighted the importance of International Network on Genetic Resources of Aquaculture (INGA). He also appreciated the support received from APAARI and assured that the WorldFish Center would continue providing support to GoFAR activities since this network is serving a very useful purpose.
UTFANET

Prof. H P M Gunasena, Executive Director, Sri Lankan Council for Agricultural Research Policy (CARP) made the presentation on UTFANET. He mentioned that a News Center on Tropical Fruits has been established in his Council with support of ICUC. Nine countries are partners in this initiative and crops identified accordingly priority are three, namely jackfruit, pommelo and mangosteen. In addition, lime, guava and ber will also be included in the Network. He emphasized on the important role of further research support on underutilized fruits in the region and felt that the center in future will be able to play an important role in partnership with APAARI and GFAR as well as in collaboration with Global Facilitation Unit on Underutilized Plants established recently at IPGRI. Dr. Haq informed that this new Center will be inaugurated early next year and the Board of the Center will be meeting during the course of APAARI Expert Consultation for finalizing its future work plan and activities. He also stated that the Center’s Headquarters is being shifted from Philippines to Sri Lanka and there is now assured funding support for UTFANET activities for the next five years. He desired to have more active participation of NARS and APAARI in strengthening this initiative.

PGR

Mr. L. T. Hong, Bamboo & Rattan and FGR Specialist from IPGRI made a brief presentation on strengthening Plant Genetic Resources Networks in Asia-Pacific region. He mentioned that four sub-regional networks (RECSEA-PR - Southeast Asia, 6 countries; SANPGR - South Asia, 5 countries; EAPGR - East Asia, 5 countries; PAPGREN - Pacific, 11 countries) and five crop networks (COGENT – coconut global network, 38 countries; ASPNET - INIBAP – banana and plantains, 11 countries; AFGRN – tropical fruits, 10 countries; SGRN – Sesame, 7 countries, and LGRN – Lathyrus, 7 countries) are functioning in the region. He was also happy to inform that new PGR Networks have been established in 2003, such as Medicinal Plants Research Network and Asia Pacific Forest Genetic Resources Programme (APFORGEN). He also appreciated the role of APAARI as a catalyst to improve information-flow and sharing of PGR in the region. He proposed to have a meeting of IPGRI Regional Director with APAARI in order to work out specific activities to be initiated during 2004 under the agreed MoU.

TAMNET

Prof. Chamnan Chutkaew made a brief presentation relating to past history of TAMNET and recent initiatives taken by FAO, APSA and APAARI jointly to revive TAMNET. He gave an account of a few trials being conducted currently in different countries and emphasized on the need for more active involvement of NARS in future. Dr. Mangala Rai, Director General, Indian Council of Agricultural Research (ICAR) emphasized the importance of disseminating single cross maize hybrid technology to the developing countries. Most of the members present in the meeting desired to strengthen the Network and assured of their support. They also appreciated the role of FAO, APSA and APAARI in moving ahead to revive TAMNET and wished that CIMMYT may be requested to play again a proactive role and become an effective partner in this initiative. APAARI may also continue facilitating the process in partnership with FAO and APSA. Role of Plant production Service of FAO, Rome was in particular appreciated.

INCANA

Dr. M.H. Roozitalab, Chairperson, GFAR made a brief presentation relating to Inter-Regional Network on Cotton in Asia and North Africa (INCANA), established on the recommendation of the Inter-Regional Workshop on Cotton held in AREO / Tehran from 12-13 October, 2002 with participation of scientists from Azerbaijan, India, Iran, Pakistan, Tajikistan, Turkmenistan, Uzbekistan and Greece. The following organizations had sponsored the workshop: AREO, AARINENA, GFAR, CAC-Forum, APAARI, and ICARDA. The Network aims at fostering the inter-regional collaboration in cotton research and would address the issues of common interest through exchange of germplasm, information and expertise in major production-related topics such as breeding, irrigation management, integrated pest management, fiber quality marketing, etc. Most of the members present in the meeting desired to strengthen this new Network and assured of their support. It was felt that NARS stand to gain from INCANA network and appreciated the role of AREO, Iran in providing facilitation function. APAARI could continue supporting this initiative, which had been a long felt need identified by its members.
Biosaline Network

Prof. Faisal Taha, Director (Technical Programs) of International Centre for Biosaline Agriculture (ICBA) made a presentation on networks on biosaline agriculture. He particularly dwelt upon two networks that focus and align efforts in biosaline agriculture, namely Global Biosaline Network (GBN) and Inter-Islamic Network on Biosaline Agriculture (INBA). He was particularly appreciative of APAARI’s role in ensuring needed support from NARS in the region. He opined that together APAARI and the Global Biosaline Network can extend the needed support of network to the Asia-Pacific region, including countries in the Central Asia.

ITFNet

Ms. Khoo Gaik Hong, Technical Officer, ITFNet briefed the participants on the ITFNet's role in global information system of tropical fruit industry. All the participants were apprised of the results of ITFNet activities in promoting sustainable development of the tropical fruit industry globally in relation to production, consumption, processing, marketing and international trade, etc. Ms. Hong particularly dwelt upon a Tropical Fruit Information System and ITFNet Website which are able to serve as a multimedia knowledge base, provide an easy access to updated global information on tropical fruits, i.e. to strengthen research partnership in the region.

Recommendations on Strengthening Research Networks and Consortia

There was very active and lively discussion relating to the role of Networks. Member NARS felt that these Networks were serving very useful purpose and must be further strengthened as well as supported, especially through active involvement of concerned NARS, including APAARI. It was suggested that for better funding support to these Networks, a regional level donor meeting could possibly be organized in active collaboration with FAO, GFAR and IARCs. APAARI could facilitate this process and provide needbased support, wherever necessary. It was also agreed that CG centers may be pursued to continue playing their important facilitator function for the on-going Networks and member NARS may also contribute towards better sustainability of these Networks, including the responsibility in future to run their secretariats. Also involvement of private sector may be sought in future. It was also suggested that the facilitating centers/institutes may be encouraged to have an internal review of the existing Networks for much needed gap analysis and restructuring, if needed. Also, the need to have some research Networks activities in the livestock sector, involving ILRI, and agro-forestry center, involving ICRAF was felt. The initiative to establish Inter-regional Network on Cotton (INCANA) was appreciated in particular. More such initiatives in future will strengthen NARS considerably.

Plenary Session – Strengthening Networks

Chairperson: Prof. Dr. Adel El-Beltagy, Director General, ICARDA
Co-chairperson: Dr. Raj Paroda, Executive Secretary, APAARI

Final Recommendations on Strengthening Regional Research Networks/Consortia

APAARI should review the network activities to redefine their objectives through gap analysis, and their funding strategy and possible restructuring. In this regard, APAARI should consider organizing a more focused meeting with participation of donors, CG Centers, ARIs and GFAR to review the networks and seek support for network activities

It was also suggested that there is a need for a vegetable network in the region and greater involvement of industry. Dr. Paroda commented that from a long-term perspective the research networks should be sustainable on their own rather than relying on donor-support. Dr. Eric Johns suggested that NARS should recognize the R&D expenditure made by the private sector in the region. Dr. William Dar suggested that APAARI as a whole could be further strengthened with greater stakeholder involvement so that it can enhance its support to networks.
Special Session on Establishment of APCoAB

Chairperson: Dr. Matsuo Iwamoto, Chairperson, APAARI
Co-chairperson: Dr. B.R. Barwale, Chairperson, MAHYCO Foundation

Following recommendations of previous FAO-APAARI organized consultations and meetings on APCoAB, a special session was organized to apprise all stakeholders of current status of this initiative and to invite their feedback on the structure and the road map for future activities of the consortium. The session was well attended, including by several NARS leaders, agricultural biotechnology experts from the region’s NARS, and the private sector.

Establishment of APCoAB – A Status Report

Dr. Raj Paroda, APAARI Executive Secretary presented a status report on APCoAB in which he elaborated the genesis of APCoAB’s conceptual development through earlier APAARI consultations and meetings in collaboration with FAO and donor partners. To establish APCoAB as a neutral forum under APAARI he urged the participants to focus on some critical issues, including APCoAB Management Structure, Steering Committee, Funding, Implementing Agency, Membership, Secretariat, Collaboration, and the Action Plan for 2004-2006.

Report on Brainstorming Session on Agricultural Biotechnology – PCARRD, Philippines

Dr. P. S. Faylon, PCARRD, Philippines presented the recommendations of a workshop held in Philippines with partial support of APAARI on Regulatory Framework and Procedures for Promoting Agricultural Biotechnology in the Philippines. The recommendations included six major areas: R&D, Regulatory, Public Awareness & Concern, Public-Private Sector Partnership, and IPR Protection. Further cooperation with APAARI through APCoAB was also recommended to move ahead.

Report on Brainstorming Session on Agricultural Biotechnology – TAAS, India

Dr. Raj Paroda, representing TAAS, India, reported on a brainstorming session on agricultural biotechnology held in India with partial support from APAARI. The discussions included present status of biotechnological developments in India, product development through public–private sector partnerships, and enabling regulatory measures framework. The brainstorming session concluded that for successful utilization of biotechnology in India, it is critical to devise a clear National Biotechnology Policy, which covers the important elements of contract sociale, science-led impact and risk analysis, information empowerment and awareness, and proper R&D support.

Biotechnology Related Initiatives and Proposals by Japanese Research Institutes

Dr. Kenichi Higo, Vice-President of National Institute of Agrobiological Sciences (NIAS), Japan presented biotechnology related initiatives and proposals of Japanese research institutes. Dr. Higo presented a brief description of three agricultural biotechnology related research projects carried out in Japan, namely, Rice Germ Sequence Project, Environment Impact Assessment Project, and GM Food Labeling and Detection Project.

An Optional APCoAB Road Map and Work Plan for 2004-2006

Dr. Andrew D. Powell, a Singapore-based consultant working on APAARI mission, presented a possible road map and work plan for APCoAB covering 2004-2006. Several alternatives were presented for each functional area of the proposed consortium. However, since the final report of the consultant could not be made available before the session due to its late submission to APAARI, several participants, particularly from NARS, indicated that they needed more time to critically review the proposed plan as it appeared more industry-oriented at the first glance.
General Discussion and Recommendations

Dr. Barwale, the session co-chair, shared his observations on occasional negative perceptions about the introduction of new technologies in agriculture by giving examples from 1950’s when dwarf varieties of wheat were introduced in Indian agriculture. He envisioned a significant role to be played by biotechnology for bringing about a second green revolution in the region and therefore a forum like APCoAB is a necessity to counter misinformation propagated in media. He emphasized a focused approach for APCoAB to not only inform public but also the majority of agricultural scientists in the region.

Dr. Giovannetti remarked on the need for involvement of all the stakeholders, dilution of donor- emphasis in the APCoAB work plan presented by the consultant, and formation of a communication strategy for two-way dialogue between the stakeholders. He suggested that APCoAB should begin with discussions within each stakeholder group and similar agricultural biotechnology initiatives in other regions should also be explored for cooperation.

Dr. Ghareyazie suggested more discussion was needed on the APCoAB work plan, the composition of its steering committee, and establishment of APCoAB secretariat, probably through a workshop in near future. He observed that the presented work plan seemed more industry-oriented with less emphasis on the needs of some developing countries of the Asia-Pacific region. He offered ABRII, Iran as a possible location for APCoAB secretariat and activities.

Dr. Malcolm Hazelman reiterated FAO’s endorsement for establishing APCoAB and suggested to start on a small-scale with some doable activities, giving immediate output that can be used for gaining wider support. He suggested that duplication of efforts should be avoided through developing partnerships with appropriate initiatives taken by other organizations. He identified FAO’s Japanese Government-funded biosafety project where further cooperation could be developed.

Dr. William Dar observed that APCoAB concept has come a long way and has been well received by the APAARI members. He suggested proper prioritization of the activities listed in the work plan through a meeting in early 2004. He highlighted the importance of partnerships and identification of resources within NARS of the region to carry forward APCoAB initiative. He endorsed ICRISAT’s support for APCoAB activities.

Dr. Morakot Tanticharoen, Director of BIOTEC conveyed the support of the Minister of Agriculture, the Royal Thai Government, for APCoAB establishment. JIRCAS representative informed that there were several Japanese agricultural biotechnology programs with international dimension and they should also be considered for cooperation. Prof. Gunasena observed that the work plan presented by the consultant seems too ambitious. Each country has its own biotechnology programs and cooperation with these programs should be given consideration through APCoAB. Dr. Faylon suggested that significant amount of discussion has taken place on APCoAB over the last 2 years and it is now time to move forward. Also, he suggested that the proposed action plan should be simplified with a focus on possible activities as it will make the communication among the stakeholders easier in the inception phase.

Finally, the session was concluded with an overall endorsement for the establishment of APCoAB and it was agreed that APAARI Executive Committee should take appropriate action to move ahead in this regard beginning 2004.
PART III

The Seventh APAARI Executive Committee Meeting

Date: 4th December 2003, The Asian Institute of Technology, Bangkok, Thailand

PROCEEDINGS

Asia-Pacific Association of Agricultural Research Institutions
FAO Regional Office for Asia and the Pacific
39 Phra Atit Road, Bangkok 10200, THAILAND
The 7th Executive Committee Meeting of APAARI was held on 4th December, 2003 at the Asian Institute of Technology (AIT) to discuss various items as per Agenda provided in Annexure III.

**Agenda Item 1: Welcome Address by the Executive Secretary**

Dr. Raj Paroda, Executive Secretary, APAARI, welcomed all the members of the Executive Committee as well as those who attended as observers. He particularly welcomed the new Chairperson, APAARI, Dr. Matsuo Iwamoto for having agreed to attend the meeting. He also welcomed Dr. Nurul Alam, Vice-Chairperson, APAARI. He also appreciated the presence of all other members and especially Mr. Somchai Channarongkul in place of Dr. Prapaisri Pitakpaivan, Dr. Thierry Mennesson and Dr. Nguyen Van Bo for having attended the meeting for the first time. He also expressed his appreciation for the excellent support provided by all members to APAARI Secretariat.

**Agenda Item 2: Chairperson’s Remarks**

Dr. Matsuo Iwamoto extended his welcome to all the members of the Executive Committee meeting. He was pleased to Chair the meeting and was pleased to Co-Chair with Dr. Nurul Alam. He placed on record his appreciation for the leadership provided by his predecessor Dr. Takahiro Inoue. Dr. Iwamoto emphasized the importance of regional cooperation and felt that APAARI as a regional forum could play prominent role to strengthen agricultural research for development in Asia-Pacific region. He then sought the approval of the Committee for the proposed Agenda Items for discussion. The members felt that Agenda Items were well presented and covered all aspects that needed to be discussed. The agenda was accordingly approved, as proposed.

**Agenda Item 3: Action Taken Report**

The Executive Secretary briefed the members about the various activities undertaken during the last one year. He also indicated that the Proceedings of Penang meeting were published and circulated to all the members and the Newsletter, one Success Story and the revised Constitution were also published and distributed.

The members were appreciative of various activities undertaken by the APAARI Secretariat and desired to have more participation of APAARI members in relevant regional and international meetings/conferences where APAARI’s presence was considered necessary. Also members felt that various networks were moving ahead well in partnership with CG Centers and the progress relating to APARIS as well as web site was commendable.

**Agenda Item 4: APAARI Secretariat Unification**

The Executive Committee noted with satisfaction the action taken to have the unification of APAARI Secretariat with effect from 1st July, 2003 at FAO-RAP, Bangkok. Also members were pleased that Dr. Sahdev Singh joined as Assistant Executive Secretary so that increased workload could be shared.

**Agenda Item 5: Membership Status**

- **CAAS and COA Memberships**

The Executive Committee members discussed in detail the membership of Chinese Academy of Agricultural Sciences (CAAS). After detailed discussion, the members felt that, since APAARI Constitution clearly defines it as apolitical body composed of an association of agricultural research institutions, APAARI should welcome CAAS to join as a new member. It was also felt that it should not concede to any position which may impose any restrictions on existing members. Meanwhile, it was decided that the APAARI secretariat and the Committee members would exert possible efforts to approach CAAS again to become a member without imposing any specific conditions particularly with regard to membership of Council of Agriculture (COA), Taiwan.
• **Membership Expansion**

It was discussed that South-Pacific Commission (SPC) should be requested to join as associate member and also help in future to ensure the participation of those countries from Pacific Islands who are not yet members of APAARI. It was also mentioned that JIRCAS may send its staffs early next year and discuss with those countries in this regard. Dr. Thierry Mennesson offered to discuss the issue of associate membership with the new Director General of SPC. Also he offered to ensure support for participation of those Pacific Islands countries that are not yet members in future APAARI meetings.

Dr. Jean Francois Giovannetti suggested that under DURAS, GFAR and France Government could ensure participation of delegates from Cambodia, Myanmar, Laos, Bhutan etc.

The Committee felt that Indonesia and New Zealand may again be approached to become member of APAARI.

Other CG Centers such as CIP and CIAT could also be requested to become associate members, whereas CIRAD could again be approached to become associate member. Dr. Giovannetti offered to facilitate the process relating to CIRAD membership.

Regarding associate membership of CABI, it was decided that a formal request for payment of membership dues be made again, failing which its name be deleted from the list.

**Agenda Item 6: Financial Status and Audited Accounts Statements**

• **Status of Membership Payments**

The Executive Secretary apprised the members that all the members have been paying their dues rather regularly and hence, there is no specific concern except that of CABI (Annexure-IV). It was suggested that in APAARI documents, instead of country, we should indicate institution with country in brackets in future.

• **Audited Account Statements**

The Audited Account Statements of APAARI for the year 2002 were examined by the Executive Committee and approved. Also Committee members were pleased to see the Audited Accounts up to 31 October, 2003 (Annexure-V) and noted that the budget expenditures were within the approved allocations under different items (Annexure-VI). Executive Committee was very pleased to note that the fixed deposit amount had been increased from US$ 700,000 to that of US$ 750,000 during 2003.

Also there was discussion relating to the possibilities for having more interest on fixed deposits. However, considering the safety of existing account with the Siam Commercial Bank, where most of FAO-RAP accounts are also operated, it was felt that for the time being we may continue with existing system.

**Agenda Item 7: Search for New Auditor**

The matter relating to having a new auditor appointed was discussed. It was decided that from out of two new firms that had quoted for auditing APAARI accounts, be interviewed by the Executive Committee member from Thailand, Mr. Somchai Channarongkul and Mr. P.K. Saha and the decision be taken by them to appoint a new auditor, considering their credentials and by assessing as to who would serve our purpose well.

**Agenda Item 8: Establishment of APCoAB**

The Executive Committee members expressed their satisfaction relating to the efforts made by the Secretariat, especially the Executive Secretary, Dr. Raj Paroda, to accelerate the process of establishing APCoAB. In view of general endorsement in the special session organized on 3rd December afternoon, it was decided to move ahead and establish APCoAB effective 1st January, 2004. The following decisions were taken:
1) To start APCoAB to begin with through APAARI office in Bangkok and explore the possibilities of having a Secretariat located either with some member NARS or with some CG Centers.

2) APAARI to contribute a matching support of US$ 30,000 for the year 2004.

3) Establish a regular member-driven Steering Committee of APCoAB which includes APAARI chairperson and two other regular members and have its meeting convened during 1st half of 2004.

4) Initiate some selected activities based on a well-planned Road Map and Work Plan to be finalized in consultation with APAARI members themselves. The Secretariat could initiate this process electronically rather than depending on present consultant, whose report was too ambitious and not in accordance with the Concept Note and the expectations of APAARI members.

Agenda Item 9: Work Plan for 2004

The Work Plan for 2004, as proposed by the Secretariat, was considered appropriate and hence approved.

Agenda Item 10: Eight General Assembly and Expert Consultation

In view of the decision already taken during last APAARI General Assembly in Penang, Executive Committee felt comfortable to have the next meeting of General Assembly organized in the first week of December in Taipei, Taiwan (1 – 4 December, 2004). Members were also pleased with the generous offer by COA to provide all local expenses including travel, lodging and boarding of one participant from each of the members from the developing countries in the region. It was suggested that the Secretariat may get this commitment in writing from the host organization and move forward. Also one day be kept exclusively for the field visit to various research institutions in and around Taipei.

The subject on Post Harvest Technology was considered appropriate from the next Expert Consultation. The Chairperson offered his services in developing the technical program. Also collaboration of FAO and GFAR could be sought for this purpose.

Agenda Item 11: Any Other Item

- Participation of NGO’s

After detailed deliberation on the subject relating to participation of NGO in future APAARI meetings, it was decided that advice and assistance of GFAR be sought to move forward in this regard.

- Operation and Management of APAARI Accounts

The proposal to operate APAARI accounts by three officials (Executive Secretary, Assistant Executive Secretary and FAO-RAP APAARI Liaison Officer Mr. P.K. Saha) was approved with the condition that in all future transactions, minimum of two signatures be ensured from out of three persons approved for operation of accounts.

- Availing Continued Services of Mr. P.K. Saha, FAO-RAP

Considering that Mr. Saha is going to retire early next year and considering the increased workload as well as valuable assistance provided during the last ten years to APAARI, his services be availed as APAARI Liaison Officer with effect from 1st March, 2004 and an honorarium of US$ 800 per month be paid for his services. It was agreed that Mr. Saha would help in day-to-day activities relating to general administration and monitoring, liaison work with APAARI members, FAO, GFAR etc. and timely printing of APAARI publications as well as general correspondence. Mr. Saha would work under overall guidance and supervision of the Executive Secretary and in close cooperation with the Assistant Executive Secretary.

- Participation in the 15th AAACU Biennial Convention

It was agreed that APAARI should co-sponsor the 15th AAACU Biennial Convention and participate in its meeting to be held at Nagoya University, Japan from 27-30 September, 2004. The AAACU be advised to
request the Chairperson, APAARI to address the Convention and present a report on APAARI activities on research partnerships in Asia-Pacific region. Also two-three members from within the region could be nominated to participate in the Convention for which Chairperson was requested to take a final decision in consultation with AAACU.

**Agenda Item 12: Closing Remarks by the Chairperson and Vote of Thanks**

Dr. Matsuo Iwamoto expressed his great satisfaction with regard to functioning of APAARI Secretariat under the able leadership of Dr. Raj Paroda. He also assured of his best possible support to APAARI activities in future. Dr. Nurul Alam, Vice-Chairperson, proposed the vote of thanks to all the members for their active participation and desired to have continued services of Dr. Paroda in the best possible interest of APAARI. He felt that his valuable contributions have raised the stature of APAARI to its present level. He also expressed his satisfaction of being closely associated with APAARI activities and requested all Executive Committee members to continue providing their support in future as well. Dr. R.N. Sapkota, ex-Chairperson, also expressed his appreciation for the excellent progress made by APAARI during the last few years and thanked Dr. Paroda for his leadership and valuable guidance.

The meeting ended with a vote of thanks to both Chairperson and Vice-Chairperson.
**Annexure - I: Program**

**Global Forum on Agricultural Research**

*GFAR*

**FORUM MONDIAL DE LA RECHERCHE AGRICOLE**

**FORO GLOBAL DE INVESTIGACION AGROPECUARIA**

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**Expert Consultation on Strengthening Regional Agricultural Information System and Status of Regional Research Networks and Consortia**

Asian Institute of Technology, Bangkok, Thailand

1-3 December, 2003

**Agenda**

**December 1, 2003 (Monday)**

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<th>Time</th>
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<td>8:00-9:00</td>
<td>Registration</td>
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<td>8:00-9:00</td>
<td><strong>Inaugural Session</strong></td>
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<td>9:00-9:05</td>
<td>Welcome Address on behalf of APAARI Dr. Nurul Alam</td>
<td>Dr. Nurul Alam, Vice-Chairperson, APAARI</td>
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<td>9:05-9:10</td>
<td>Welcome Address on behalf of AIT</td>
<td>Prof. Mario Tabucanon, Provost, AIT</td>
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<td>9:10-9:20</td>
<td>Objectives of Expert Consultation</td>
<td>Dr. Raj Paroda, Executive Secretary, APAARI</td>
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<td>9:20-9:30</td>
<td>Special Remarks on behalf of GFAR</td>
<td>Dr. Mohammad Roozitalab, Chairperson, GFAR;</td>
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<td>9:20-9:30</td>
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<td>Dr. Jean-François Giovannetti, Senior Expert, GFAR</td>
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<td>9:30-9:40</td>
<td>Special Remarks on behalf of FAO</td>
<td>Dr. Hiroyuki Konuma, FAO Deputy Regional Representative</td>
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<td>9:40-9:50</td>
<td>APAARI Chairperson’s Address</td>
<td>Dr. Mutsuo Iwamoto, Chairperson, APAARI</td>
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<td>9:50-10:00</td>
<td>Inaugural Address by H.E. Mr. Newin Chidchob, (read by)</td>
<td>Mr. Somchai Charnnarongkul, DDG, DOA, Thailand</td>
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<td>10:00-10:05</td>
<td>Vote of Thanks</td>
<td>Mr. P.K. Saha, Liaison Officer, APAARI</td>
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<td>10:05-10:30</td>
<td>Coffee Break and Group Photograph</td>
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Session I: Global and Regional Initiatives
Chairperson: Dr. Behzad Ghareyazie, Former Deputy Minister for Agriculture, Iran
Co-chairperson: Prof. H.P.M. Gunasena, Executive Director, CARP

10:30-11:00 GLOBAL Agenda for ICT in ARD
Dr. Jean-François Giovannetti
Senior Expert, GFAR

11:00-11:30 Status Report on APARIS
Dr. Sahdev Singh
Assistant Executive Secretary, APAARI

11:30-12:00 Brief Reports from other Regions
Dr. Ahmed Rafea, AARINENA;
Ms. Myra Wopereis-Pura, FARA

12:00-12:30 General Discussion

12:30-13:30 Lunch

Session II: Country Status Reports
Chairperson: Dr. Ashraf Tanvir, Director Scientific Information, PARC
Co-chairperson: Dr. Paul Teng, Deputy Director General, The World Fish Center

(Country Presentations for Approx. 15 mins. each)

13:30-15:30 Country Reports of Bangladesh, India, Iran, Nepal, Sri Lanka, Philippines, and Malaysia

15:30-16:00 Coffee Break

Session II: Country Status Reports (contd.)
Chairperson: Dr. R.N. Sapkota, Executive Director, NARC
Co-chairperson: Dr. William Padolina, Deputy Director General, IRRI

16:00-18:00 Country Reports of Japan, Pakistan, South Korea, Taiwan, Thailand, New Caledonia, Vietnam, and Western Samoa

18:00-18:30 Discussion on Strengthening Regional Agricultural Information System (RAIS) – APARIS

19:30 Reception Dinner by APAARI (The Asia Airport Hotel)

December 2, 2003 (Tuesday)

Session III (a): Demonstrations on Existing ICT Opportunities
Chairperson: Prof. Gajendra Singh, AIT
Co-chairperson: Dr. Jean-François Giovannetti, GFAR

8:30-8:55 FAO ICM Models and Tools (Demonstration by Mr. Michael Riggs, FAO-RAP)

8:55-9:20 ICT-KM Program of the CGIAR (Demonstration by Ms. Enrica Porcari, CGIAR)

9:20-9:45 ISNAR ICM Models and Tools (Demonstration by Dr. Ajit Maru, ISNAR)

9:45- 10:10 Virtual Academy for Semi-Arid Tropics (Demonstration by Dr. V. Balaji, ICRISAT)

10:10- 10:35 APAN and APAN Agricultural Working Group (Prof. Seishi Ninomiya, APAN)

10:35-11:00 Coffee Break

11:00-11:25 Successful Global Research Databases (Demonstration by Dr. Paul Teng, The World Fish Center)
11:25-11:50  Distance Education Initiatives for ARD  (Dr. Robert Raab, APRTC)
11:50-12:15  ICT Capacity Building Programs for the Region (Dr. Charoon Chirapaisarnkul, AIT)
12:15-12:40  Private/NGO Initiatives (Mr. Sunil Khairnar, ISAP/AgroWatch.com)
12:40-13:00  General Discussion

Session III (b): Update on Research Networks
Chairperson : Dr. Mohammad Roozitalab, Chairperson, GFAR
Co-chairperson : Dr. M. H. Al-Attar, Director General, ICBA

8:30-9:00  APAARI Initiatives on Research Networks  Dr. R.S. Paroda
          Executive Secretary, APAARI
9:00-9:20  CORRA  Dr. William Padolina,
          Deputy Director General, IRRI
9:20-9:40  CLAN  Dr. C.L.L. Gowda,
          ICRISAT
9:40-10:00  GoFAR  Dr. M.V. Gupta,
          The World Fish Center
10:00-10:20  UTFANET  Prof. H.P.M. Gunasena,
          Executive Director, CARP
10:20-10:50  Coffee Break
10:50-11:10  PGR Networks  Mr. L.T. Hong,
          Expert in Bamboo & Rattan, IPGRI
11:10-11:30  TAMNET  Prof. Chamnan Chutkaew,
          Coordinator, TAMNET
11:30-11:50  INCANA  Dr. M. Roozitalab,
          AARINENA
11:50-12:10  Biosaline Network  Dr. Faisal Taha,
          ICBA
12:10-12:30  ITFNet  Mr. Khairuddin Md. Tahir,
          ITFNet
12:30-13:00  Discussion on Strengthening the Networks
13:00-14:00  Lunch

Session IV: Group Discussions

14:00-18:00  Discussion on Framework of APARIS (Detailed guidelines will be explained.)

Group I  Moderator
ICT for Science & Technology Information Dissemination (how to reach students)
Dr. J. F. Giovannetti, GFAR

Group II

32
December 3, 2003 (Wednesday)

Session V: Major Findings of APARIS Discussion Groups

Chairperson: Dr. Mangala Rai, Director General, ICAR
Co-chairperson: Dr. P.S. Faylon, Executive Director, PCCARD

8:30-8:50 Group I: ICT for Science & Technology Information Dissemination

8:50-9:10 Group II: ICT Networks of ARD Professionals

9:10-9:30 Group III: Extension through ICT

9:30-9:50 Group IV: ICT in Research Policy Formulation

9:50-10:30 General Discussion and Finalization of Recommendations
(Including Role of NINPs and Steering Committee)

10:30-11:00 Coffee Break

Plenary Session

Chairperson: Prof. Dr. Adel El-Beltagy, Director General, ICARDA
Co-chairperson: Dr. Raj Paroda, Executive Secretary, APAARI

11:00-12:00 Final Recommendations on Strengthening of Research Networks/Consortia

12:00-12:30 Final Recommendations on APARIS and Concluding Remarks

12:30-14:00 Lunch (A field tour of AIT organized for NINPs in the afternoon)

18:00-19:00 APARIS Steering Committee Meeting after APCoAB Session

A Special Session on Establishment of APCoAB

Chairperson: Dr. Matsuo Iwamoto, Chairperson, APAARI
Co-chairperson: Dr. B.R. Barwale, Chairperson, MAHYCO Foundation

14:00-14:20 Establishment of APCoAB – a status report
Dr. Raj Paroda
Executive Secretary, APAARI

14:20-14:40 Report on Brainstorming Meeting held in the Philippines
Dr. P.S. Faylon
Executive Director, PCCARD

14:40-15:00 Report on Brainstorming Meeting held in India
Dr. R.S. Paroda
Chairperson, Trust for
The Seventh APAARI Executive Committee Meeting

Venue: Asian Institute of Technology, Bangkok, Thailand

Date: 4 December, 2003

Chairperson : Dr. Matsuo Iwamoto, Chairperson, APAARI
Co-chairperson : Dr. Nurul Alam, Vice-Chairperson, APAARI

8:30-10:30
- Welcome Remarks – Chairperson
- Action Taken Report – Executive Secretary
- Membership Status
- Presentation of Audited Accounts (2002-2003)
- Appointment of Auditors

10:30-11:00  Coffee Break and Group Photograph

11:00-13:00
- Work Plan for 2004
- Approval for Establishment of APCoAB
- Concluding Remarks – Chairperson
- Vote of Thanks – Vice Chairperson

13:00-14:00  Lunch
Annexure - II: List of Participants

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Annexure - III: Agenda for The Seventh APAARI Executive Committee Meeting

Asia-Pacific Association of Agricultural Research Institutions

The Seventh Executive Committee Meeting
(4th December, 2003)

Agenda

1. Welcome Address by the Executive Secretary
2. Chairperson’s Remarks
3. Action Taken Report
4. APAARI Secretariat Unification
5. Membership Status
   • CAAS and COA Memberships
   • Membership Expansion
6. Financial Status and Audited Accounts Statements
   • Status of Membership Payments
   • Audited Account Statements
7. Searches for New Auditor
8. Establishment of APCoAB
10. Eight General Assembly and Expert Consultation
11. Any Other Item
   • Participation of NGO’s
   • Operation and Management of APAARI Accounts
   • Availing Continued Services of Mr. P.K. Saha, FAO-RAP
   • Participation in the 15th AAACU Biennial Convention
12. Closing Remarks by the Chairperson and Vote of Thanks
### Annexure - IV: Status of Membership Fee as of October 31, 2003

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Member</th>
<th>Year 2001</th>
<th>Year 2002</th>
<th>Year 2003</th>
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<tr>
<td>4.</td>
<td>BARC – Bangladesh</td>
<td>Rec.</td>
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<td>16.</td>
<td>PARC - Pakistan</td>
<td>Rec.</td>
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</tbody>
</table>

#### Associate Member

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Member</th>
<th>Year 2001</th>
<th>Year 2002</th>
<th>Year 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Asian Vegetable Research and Development Center (AVRDC), Taiwan</td>
<td>Rec.</td>
<td>Rec.</td>
<td>Rec.</td>
</tr>
<tr>
<td>2</td>
<td>International Maize and Wheat Improvement Center (CIMMYT), Mexico</td>
<td>Rec.</td>
<td>Rec.</td>
<td>Rec.</td>
</tr>
<tr>
<td>6</td>
<td>International Plant Genetic Resources Institute (IPGRI), Rome, Italy</td>
<td>Rec.</td>
<td>Rec.</td>
<td>Rec.</td>
</tr>
<tr>
<td>7</td>
<td>International Centre for Agricultural Research in the Dry Areas (ICARDA), Syria</td>
<td>Rec.</td>
<td>Rec.</td>
<td>Rec.</td>
</tr>
<tr>
<td>11</td>
<td>International Center for Biosaline Agriculture (ICBA), UAE</td>
<td>Rec.</td>
<td>Rec.</td>
<td>Rec.</td>
</tr>
<tr>
<td>15</td>
<td>The World Fish Center, Malaysia</td>
<td>Rec.</td>
<td>Rec.</td>
<td>Rec.</td>
</tr>
</tbody>
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**01 January – 31 December 2002**

*(Amount in US Dollars)*

<table>
<thead>
<tr>
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<tr>
<td></td>
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<td>Budget</td>
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<td><strong>31/12/2001 Balance B/F:</strong></td>
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<td><strong>720,990.96</strong></td>
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<tr>
<td>1. Membership Fee</td>
<td>111,327.99</td>
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<tr>
<td>2. Contributions</td>
<td>57,645.41</td>
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<td>3. Interest Income</td>
<td>13,822.69</td>
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</tr>
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<td>4. Other Income:</td>
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<td>4.1 Refund</td>
<td>10,480.40</td>
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<td>4.2 Profit and Loss on Transfer</td>
<td>3,692.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Publications</td>
<td>30,000.00</td>
<td>8,200.54</td>
<td></td>
</tr>
<tr>
<td>6. APAARI Secretariat Support:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1 Secretary / Technical Officer</td>
<td>45,000.00</td>
<td>28,965.21</td>
<td></td>
</tr>
<tr>
<td>6.2 Office Stationary &amp; Office equipment</td>
<td>25,000.00</td>
<td>9,718.77</td>
<td></td>
</tr>
<tr>
<td>6.3 Miscellaneous / Communication</td>
<td>20,000.00</td>
<td>17,736.99</td>
<td></td>
</tr>
<tr>
<td>7. Consultancy / Travel / SSA</td>
<td>40,000.00</td>
<td>34,913.46</td>
<td></td>
</tr>
<tr>
<td>8. Training/Selected Research Projects/Network Support</td>
<td>45,000.00</td>
<td>15,602.00</td>
<td></td>
</tr>
<tr>
<td>9. Meetings</td>
<td><em>45,000.00</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.1 Expenses of Biotech Meeting</td>
<td></td>
<td>36,405.88</td>
<td></td>
</tr>
<tr>
<td>9.2 Expenses of ICT Meeting</td>
<td></td>
<td>21,393.68</td>
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<tr>
<td>9.3 Expenses of General Assembly meeting</td>
<td></td>
<td>31,816.56</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>196,969.11</strong></td>
<td><strong>250,000.00</strong></td>
<td><strong>204,753.09</strong></td>
</tr>
</tbody>
</table>

* For Biotech Expert Consultation additional contribution from FAO and GFAR of $20,000.- and $6,000.-, respectively received

Total amount in BKK office: US$ 708,488.00
Total amount in New Delhi office: US$ 2,182.90
Total amount in Tashkent office: US$ 2,536.08

Grand Total: US$ 713,206.98

Signed

Dr. R.S. Paroda
Executive Secretary APAARI

Ms. Urairat Rujirek
Secretary & Accountant APAARI

Ms. Chavalit Sasananan
External Auditor
# Annexure–V (contd…): Audited Statement of APAARI Accounts for 2002-2003

**01 JANUARY – 31 OCTOBER 2003**  
(Amount in US Dollars)

<table>
<thead>
<tr>
<th>ITEMS</th>
<th>RECEIVED</th>
<th>DISBURSEMENTS</th>
<th>BALANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Budget</td>
<td>Actual Used</td>
</tr>
<tr>
<td>31/12/2002 Balance B/F:</td>
<td></td>
<td></td>
<td>713,207.00</td>
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<tr>
<td>1. Membership Fee</td>
<td>155,621.63</td>
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</tr>
<tr>
<td>2. Contributions</td>
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<tr>
<td>3. Interest Income</td>
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</tr>
<tr>
<td>4. Other Income:</td>
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<td></td>
</tr>
<tr>
<td>4.1 Refund</td>
<td>405.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2 Profit and Loss on Transfer</td>
<td>1,932.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Publications</td>
<td>25,000.00</td>
<td>7,411.39</td>
<td></td>
</tr>
<tr>
<td>6. APAARI Secretariat Support:</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6.1 Assist. Executive Secretary, Secretary</td>
<td>60,000.00</td>
<td>41,501.63</td>
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<tr>
<td>6.2 Office Stationery &amp; Office equipment</td>
<td>20,000.00</td>
<td>18,528.27</td>
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<tr>
<td>6.3 Miscellaneous / Communication</td>
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<td>14,253.36</td>
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<tr>
<td>7. Consultancy / Travel / SSA</td>
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<td>45,659.36</td>
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</tr>
<tr>
<td>8. Training/Selected Research Projects/Network Support</td>
<td>45,000.00</td>
<td>12,000.00</td>
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</tr>
<tr>
<td>9. Meetings</td>
<td>50,000.00</td>
<td>7,567.46</td>
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<tr>
<td>9.1 Expenses for APCoAB Meeting</td>
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<td></td>
<td></td>
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<tr>
<td>9.2 Expenses for Ex-Com, Expert Consultation Meeting</td>
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<td></td>
</tr>
<tr>
<td>9.3 Expenses for General Assembly meeting</td>
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<td></td>
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</tr>
<tr>
<td>TOTAL</td>
<td>254,975.63</td>
<td>270,000.00</td>
<td>146,921.47</td>
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</tbody>
</table>

| | Total amount in BKK office: | US$ 818,502.25 |
| | Total amount in New Delhi office: | US$ 75.91 |
| | Total amount in Tashkent office: | US$ 2,683.00 |
| | Grand Total: | US$ 821,261.16 |

signed  

Dr. R.S. Paroda  
Ms. Urairat Rujirek  
Ms. Chavalit Sasananan  
Executive Secretary APAARI  
Secretary & Accountant APAARI  
External Auditor
Annexure-VI: Approved Budget for 2003-2004

Asia-Pacific Association of Agricultural Research Institutions (APAARI)
Proposed Budget For 2003-04
(US Dollars)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Items</th>
<th>Approved</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Publications (Newsletter, Success Stories Directory, Technical Reports, etc).</td>
<td></td>
<td>30,000</td>
<td>25,000</td>
<td>25,000</td>
</tr>
<tr>
<td>2</td>
<td>APAARI Secretariat Support</td>
<td></td>
<td>45,000</td>
<td>60,000</td>
<td>60,000</td>
</tr>
<tr>
<td></td>
<td>i.  Assistant Executive Secretary &amp; Secretary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Office Stationary &amp; Postage</td>
<td></td>
<td>25,000</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td></td>
<td>iii. Miscellaneous Items</td>
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<td>20,000</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td>3</td>
<td>Consultancy/Travel/SSA</td>
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<td>40,000</td>
<td>50,000</td>
<td>50,000</td>
</tr>
<tr>
<td>4</td>
<td>Training/Selected Research Projects/Network Support</td>
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<td>45,000</td>
<td>45,000</td>
<td>45,000</td>
</tr>
<tr>
<td>5</td>
<td>Expert Consultation (s) /General Assembly, Executive Committee meetings of APAARI</td>
<td></td>
<td>40,000</td>
<td>50,000</td>
<td>50,000</td>
</tr>
</tbody>
</table>

* The budget for the years 2003-04 has been approved in the 7th General Assembly of APARI on 4 December 2002 at Penang, Malaysia.