

Committed to promote of agricultural R & D and technology dissemination initiatives in South Asia

SAC Annual Report 2010



SAARC AGRICULTURE CENTRE (SAC)

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SAC Annual Report 2010

With best compliments from SAARC Agriculture Centre



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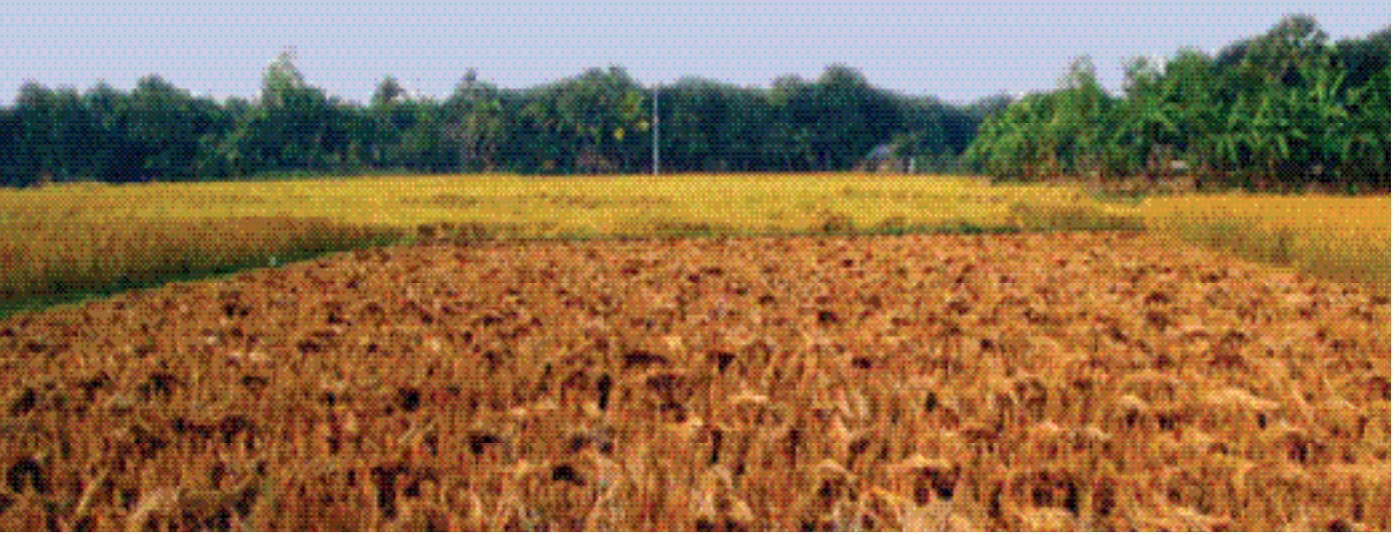
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Message



I am very happy to present annual activities of SAARC Agriculture Centre for 2010. A spate of exciting action-oriented programmes, well planned and implemented meticulously kept us busy during the year. This year's report features a good number of innovations, new initiatives and changes, reflecting the changes that have been taking place at the Centre itself.

The major activities of the Centre in 2010 are highlighted below:

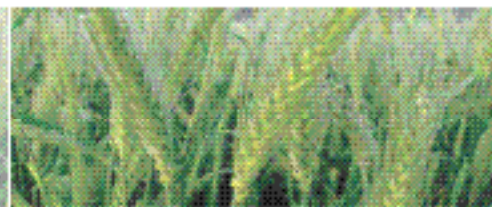
- The Fourth Governing Board Meeting
- SAARC Charter Day Celebration
- SAARC Initiatives on Regional Food Security
- Sustainable Use of Water Resources in South Asia
- Graduate Research Programme
- SAARC Seed Forum
- Training course on Manufacturing, Testing and Standardization of Agricultural Machinery
- Exposure visit to Sri Lanka on Agricultural Research and Development
- Regional workshop
 - Regional Consultation on Strategies for Arresting Land Degradation in South Asian Countries
 - Regional Consultation Meeting on National Agricultural Research System (NARS) in SAARC Countries
- New arrivals of SAARC Agriculture Centre
- Seminars/Workshops/Consultations

The Centre will continue its effort to fulfil the mandate for the promotion of Agricultural Research and Development (R&D) as well as technology dissemination initiatives for sustainable agricultural development and poverty alleviation in the region.

The achievements made during the period were the results of the wholehearted and sincere efforts of SAC personnel and cooperation from all our associates/peers. We will use 2011 as a year of consolidation, while working on the new activities that we will present in our next report.

The Centre always appreciates receiving feedback, comments and suggestions from the users of our products and services to help us enabling to do better.

Dr. Abul Kalam Azad
Director, SAC



In 2010, the SAARC Agriculture Centre (SAC) towards achieving its goal to accelerate agricultural research and development and technology dissemination in SAARC countries. It has developed linkage among agricultural scientists, technologists, researchers and policy makers of the SAARC member countries through the establishment of regional networking for technology dissemination and ensures input for regional cooperation in agriculture to face the common goals and challenges met by the SAARC member countries. Also the Centre has taken initiatives on food security projects with ADB, water use efficiency project with AusAid. It provides a brief account on the happenings of the Centre during the period from January to December 2010.

The important programmes and salient features of activities of the centre are stated below.

- The Fourth Governing Board Meeting held during 24 - 26 October 2010
- SAARC Charter Day Celebration During 7- 8th 2010
- Regional Consultations/Workshops
- ADB Workshops on "SAARC Initiatives on Regional Food Security"
- AUSAid Consultation Meeting on "Sustainable Use of Water Resources in South Asia
- The Centre's new window opened on "Graduate Research Programme".
- Initiation of SAARC Seed Forum
- The Centre's new initiatives "Training Course on Manufacturing, Testing and Standardization of Agricultural Machinery".
- Exposure visit to Sri Lanka on Agricultural Research and Development

The Centre organized three regional consultation workshops/International Conference in the year 2010

- Regional Consultation on Strategies for Arresting Land Degradation in South Asian Countries in collaboration with National Bureau of Soil Survey and Land Use Planning (NBSS & LUP), ICAR, West Bengal, India held during 21-23 June 2010 at Kolkata.
- International Conference on "Crop Production under Changing Climate: Agronomic Options" during 6-7 October 2010 at BARC, Dhaka in Collaboration with Bangladesh Society of Agronomy.
- Regional Consultation meeting on "National Agricultural Research System (NARS) in SAARC Countries" was organized in collaboration with Bangladesh Agricultural Research Institute (BARI) during 22-23 December 2010 at BARI, Gazipur.

The Centre organized and hosted five seminars in the year 2010 as follows :

- AVRDC-The World Vegetable Center's Role and Future Strategies for Vegetable Research and Development in South Asia.
- Agriculture in Bhutan
- Status and Prospects of Jute Production in India
- Agricultural Extension System in Sri Lanka and Bangladesh: System delivery and technology dissemination

New publications of SAC

Nine publications covering diverse areas in Agriculture have been published during 2010:

- i. SAARC Journal of Agriculture: Vol. 8, Issue 1&2, 2010
- ii. SAARC AgriNews, Vol 4, Issues 1, 2, 3 & 4, 2010
- iii. SAARC News, Views & Ideas Vol 8, 9, 10, for 2010
- iv. Food Grain Situation in SAARC Countries, Bulletin No. 14, Crop Year 2009-2010
- v. Directory of Ph. D. Dissertation on Agriculture in SAARC Countries Vol. 3, India
- vi. Annual Report 2009
- vii. Statistical Data Book for Agricultural Research and Development in SAARC Countries 2008-09
- viii. Proceedings of the Regional Workshop on Hill Agriculture in SAARC Countries: Constraints and Opportunities
- ix. Public Sector Support System and its Collaboration with Private Sector for Livestock Development in SAARC Countries
- x. Recommendations of the Regional Workshop on "Quality Seed in SAARC Countries"
- xi. Recommendations on Regional Workshop on "Hill Agriculture in SAARC Countries : Constraints and Opportunities"



The 4th Governing Board Meeting of SAC

The Fourth Governing Board (GB) Meeting of SAARC Agriculture Centre (SAC) was held at Dhaka during 24 - 26 October 2010. The inaugural session of the meeting was presided over by Mr. Khyam Sharma Paudyal, Chief, Agriculture Information and Communication Centre, Ministry of Agriculture & Co-operatives, Nepal and Chairman of the Governing Board of the Centre. Dr. Wais Kabir, Executive Chairman, BARC graced this occasion as Chief Guest. Mr. Riaz Hamidullah, Director, SAARC Secretariat represented the Secretary General of SAARC at the inaugural session. The Ambassadors, High Commissioners and Diplomats of the Foreign Missions of SAARC member countries at Dhaka also attended the inaugural function as special invitees. Honourable Governing Board Members of the SAARC countries, NARS scientists, high officials, extension service providers and SAC personnel attended in the meeting.

Dr. Md. Rafiqul Islam Mondal, Director, SAC welcomed the honourable GB Members and other distinguished guests and introduced the Centre to the audience. He underlined the significance of the Fourth GB Meeting as it is planned to implement medium and long term programmes to face the issues relating to agriculture that South Asia has to cope up with. Dr. Mondal thanked the Government of Bangladesh, all GB Members as well as Director (ARD), SAARC Secretariat for their continued support in implementing SAC programmes. He further requested the GB Members for providing guidance for successful implementation of the regional need based programmes of the Centre. The Director also gave brief description of major activities of the Centre,

particularly SAARC - Asian Development Bank initiatives on Regional Food Security Projects involving SAC; AusAID in collaboration with SAARC Secretariat and SAC has also formulated AusAID Project Proposal for Food Security and Sustainable Use of Water Resources in South Asia.



In the inaugural remarks, Mr. Riaz Hamidullah, Director, SAARC Secretariat conveyed the greetings of His Excellency Secretary General Dr. Sheel Kant Sharma to the Governing Board Members. He also recalled the transformation of the Centre from SAIC to SAC to cater not only to the need of member countries but also to meet the challenges posed by climate change. The Director elaborated on the larger context in which agriculture / food security issues are high in agenda at the national, regional level and the growing attention over Agriculture-Climate change as well as the commensurate need for a comprehensive approach. He further emphasized on SAC to articulate more innovative and demand driven programmes given a greater interest on SAC by a range of stakeholders covering non-crop sectors e.g. livestock, fisheries as well.

In his address, Dr. Wais Kabir, Executive Chairman, Bangladesh Agricultural Research Council (BARC) mentioned that SAC has the ability to accept any responsibility to meet the challenges in the region given due opportunity. He emphasized that small-holder farmers in the region are striving due to climate change associated with several other actors to sustain food production of the region. Dr. Kabir stressed the need for participation of all GB members in formulating more effective, grassroots-oriented projects eventually, keeping in view the regional perspective. He also highlighted the importance of continuous monitoring and evaluation of the programmes at the different stages of implementation. While reflecting on his experience as erstwhile Director of SAC, Dr. Kabir said for the development of the Centre, it needs to address some of the grassroots issues, looking at the complexities in agriculture sector as a whole. He appreciated the forthcoming SAARC initiatives on Regional Food Security Programmes that SAC is involved in.

In his inaugural address the Chairperson of the GB, Mr. K S Paudyal thanked SAARC Secretariat and Govt of Bangladesh for continuous support and guidance towards development of SAC. He invited attention for enhanced cooperation among the member countries for the livelihood development of the people living in the region. Mr. Paudyal hoped, this Meeting will guide SAC further in formulating programs to increase productivity in the region in order to ensure food security for people as well as reduce poverty in the region. He also appreciated the good work done by SAC over past two decades; and expressed his expectation to continue such good work in future also.

Director's Analytical Report

Director, SAC presented his annual report, comprising the review of activities of the last year and progress in implementation during the current year, to the GB. In that regard, the Board recalled the mandate of the SAARC Agriculture Centre to implement objectives as broader challenges.

The GB deliberated on the status of implementation on the decisions taken at its third Meeting, and made general observations. The Board also recommended a good number of proposals for improving the Centre's activities. The GB considered each programme in detail and agreed on amending some of proposed details. The GB also approved the proposed priority programmes with observations as stated below:

New Programs / Projects of 2011

- Regional study on Economic Impact of Trans-boundary Animal Diseases (TADS) in the Member States
- Regional Workshop on enhancing oilseed production through improved technology in SAARC Countries (SAC/ICRISAT/ICARDA)
- Regional Workshop on current status and future prospects of pulse production in SAARC Countries (SAC/ICRISAT)
- Regional on Improvement of Vegetables and Adaptive Trial in SAARC Countries (FAO/AVRDC/ICRISAT/SAC)



The 25th Anniversary of the SAARC Charter Day 2010

SAARC Charter Day was observed on 8 December 2010 in Dhaka, Bangladesh by SAARC Agriculture Centre with due solemnity to commemorate the adoption on SAARC Charter. In observance of the 25th Anniversary of the SAARC Charter Day, the Centre organized various activities during 7-8 December 2010 which included Round Table Conference, Seminar, Illuminating of Campus Display of the Centre's products and services, distribution SAARC Charter Day marked promotional materials and Rally for raising awareness.

Round Table Conference

SAARC Agriculture Centre (SAC), Dhaka, Bangladesh in association with Agriculture Reporters Forum in Bangladesh organized a Round Table Conference on "Regional collaboration for achieving food security in South Asia" on 7 December 2010 from 3.00 pm to 6.00 pm at VIP Conference Room, National Press Club, Dhaka on the eve of SAARC Charter Day to commemorate the 25th Anniversary of adoption the SAARC Charter.

Dr. Wais Kabir, Executive Chairman, Bangladesh Agricultural Research Council presented the theme paper of the Conference and acted as a facilitator of the conference. Mr. Md. Sufiur Rahman, Director-General (SAARC), Ministry of Foreign Affairs, Government of Bangladesh also attended among others. In his theme paper, Dr. Kabir highlighted present opportunities and constraints of agriculture in South Asia, challenges of agricultural research and development in the region. He emphasized on the regional cooperation in agriculture as well as emphasized



the strengthening activities of SAARC Agriculture Centre. He focused on the areas of regional cooperation of agriculture in SAARC countries. He also highlighted on areas of immediate cooperation in Agriculture and said that over the last two decades of its existence, the process of SAARC has evolved progressively, encompassing several areas of cooperation, collaboration, joint initiatives and pledges. It has created very positive environment to make accelerated progress in fulfilling the Charter of promoting the welfare of the peoples, enhancing economic growth, social progress, cultural development and strengthening collective self-reliance among the South Asian countries. Yet much remains to be done to get the results of our efforts. Poverty is still a devastating problem in South Asia and needs to be addressed with urgent attention. He urged that we have no time to spare and we have to reach our goal until it is too late. He mentioned that there are number of regional and international networks, prevailing in the region for the development agriculture. SAC must learn from the networks for its own programme development.

Mr. Md. Sufiur Rahman, Director-General (SAARC), Ministry of Foreign Affairs, Government of Bangladesh said that the South Asian Association for Regional Cooperation is the largest regional cooperation group in the world. Our potentials are indeed enormous. We have a lot of prospects and complementarities for development, which we are trying to utilize for the benefits of the people in South Asia. The Charter of SAARC is constantly reminding us our endeavors and commitment to assist the member States to prepare the national plans of action to address issues of food security through agricultural development, poverty alleviation, empowerment of women, and human resource development. Mr. Rahman also stressed that we all make it a point at this 25th SAARC Charter Day to reassert our faith and commitment for the cause of SAARC and achieve our common goals and will further strengthen our unity and promote our regional identity in global perspective.

The eminent and renowned scientists, extension service providers, development partners, Non-Government organizations, educationists and journalists took part in the round table discussion. Eighty participants were attended in the conference.

Rally

A rally was organized from the premises of the National Parliament Bhaban to Bangladesh Agricultural Research Council Complex, Farmgate at 7:30 am on 8 December 2010 to mark the occasion of the SAARC Charter Day. Dr. Wais Kabir, Executive Chairman, Bangladesh Agricultural Research Council released pigeons from South Plaza of the National Parliament Bhaban just before start of the rally. A good number of Scientists, Extension Service Providers, SAC personnel participated with T-Shirt and caps with SAARC Monogram in the Rally. Sixty participants attended in the rally.



Seminar

A seminar was held at 10:00 am on 8 December 2010 at BARC Auditorium on "Food Security in SAARC Countries through Regional Cooperation". Dr. Md. Zainul Abedin, IRRI Representative in Bangladesh and a renowned personality in agricultural sector of Bangladesh presented the keynote paper in the seminar on this auspicious occasion.

Begum Matia Choudhury, MP, Honourable Minister, Ministry of Agriculture, Government of Bangladesh graced this occasion as the Chief Guest. Mr. CQK Mustaq Ahmed, Secretary, Ministry of Agriculture, Government of Bangladesh presided over the seminar. Dr. Wais Kabir, Executive Chairman of BARC was also present as special Guest in the seminar.

Mr. Md. Sufiur Rahman, Director-General (SAARC), Ministry of Foreign Affairs, Government of Bangladesh, Dr. Md. Abdur Razzaque, former Executive Chairman, BARC and Director, SAARC Agriculture Centre also spoke in the seminar and expressed their views on this occasion.

High officials of various Ministries, Government, Non -Government and private organizations, scientists from NARS Institutions and Extension Service Providers of different Departments, educationist from different universities, dignitaries from the High Commission/Embassies from SAARC Member Countries, Journalists and Media Personnel, Development partners also attended in this important event. Around three hundred participants attended in this occasion. Dr. Md. Rafiqul Islam Mondal, Director, SAC welcomed the distinguished audience.



Strategies for Arresting Land Degradation in South Asian Countries

A Regional Consultation on "Strategies for Arresting Land Degradation in South Asian Countries" was organized by SAARC Agriculture Centre, Dhaka Bangladesh in collaboration with National Bureau of Soil Survey and Land Use Planning, NBSS & LUP (ICAR), Kolkata, West Bengal, India during 21-23 June 2010 at Kolkata. Mr. Narendra Nath De, Minister In-Charge Agriculture and Consumer Affairs, Govt. of West Bengal inaugurated the workshop. Dr. Anil Kumar Singh, Deputy Director General (Natural Resource Management), ICAR, New Delhi; Dr. Md. Rafiqul Islam Mondal, Director, SAC, Dhaka; Mr. AZM Shafiqul Alam, Additional Secretary (PPC), Ministry of Agriculture, Bangladesh; Dr. Zuhurul Karim, Former Secretary and former Executive Chairman, BARC, Bangladesh; Dr. Saroj Kumar Sanyal, Vice Chancellor, Bidhan Chandra Krishi Viswavidyalaya and Dr. Dipak Sarkar, Director, NBSS & LUP, Nagpur, India were present in the inaugural session. A good number of senior scientists attended the consultation. Professionals from SAC and NBSS & LUP also attended in the consultation meeting.





The Consultation Meeting was composed of five technical sessions followed by plenary session on 22 June, 2010. Dr. Prithish Nag, Director, National Atlas and Thematic Mapping Organization DST, Govt. of India was the Chief Guest on the concluding session. The third day was kept exclusively for a visit to ICAR Institutes located in and around Kolkata, West Bengal.

During consultation, representatives of SAARC countries, one each from Bangladesh, Bhutan, India, Nepal and Sri Lanka and twelve resource persons from ICAR institutes, ISRO, Government of India and State Agricultural Universities from the host country, participated in the two days deliberations. A total number of nineteen research papers were presented in the Meeting. Dr. Anil Kumar Singh, DDG (NRM), ICAR, presented the Key note paper in the Meeting. During consultation meeting, SAC and NBSS & LUP displayed their products and services.

The aim of the consultation meeting was to formulate policy issues, strategies to undertake joint projects and national programs in order to address the issues of major concern and collectively find out measures to minimize the impact of land degradation, identify needs and scopes of regional collaboration to take the problem of land degradation.

Extent and trends of land degradation in South Asian countries, processes responsible for degradation such as erosion, salinization and sodification, acidification, nutrient mining, imbalanced fertilization, inappropriate land use planning and lack of an appropriate land use policy in different SAARC countries, were elaborated in the consultation. The expected influence of climate change on land degradation was also highlighted.

The influence of various agro-techniques including soil erosion preventive measures, moisture conservation, correcting water quality, integrated nutrient management, diversification of agriculture, conservation tillage and gene mining for drought avoidance, alternate land use planning, inclusion of legumes in crop calendar, legume based forage production, silvipasture and silviculture based agriculture on degradation were extensively discussed in the technical sessions.

At the end of the group discussion, following recommendations have emerged :

Researchable issues in South Asia for arresting land degradation

- Extensive research should be done for developing and framing versatile and robust database on GIS platform.
- Focus on developing decision support system (DSS) for integration of land use, technology and planning environment on different scale.
- Appropriate mapping techniques should be evolved for the delineation of problem areas including the areas affected with erosion, salinity and sodicity, acidity and nutrient mining alone or in combination.
- Research efforts should focus upon studying the temporal and spatial monitoring of the type and severity of land degradation under different agro-ecological conditions, using remote sensing and GIS techniques.
- Delineation and mapping of areas affected with heavy metal pollution should be taken up at the top of the research agenda; and the impact of heavy metals on human and livestock after entering into food chain should be investigated.
- Screening and breeding of crop varieties tolerant to soil acidity, salinity and sodicity, using conventional and biotechnological methods; evaluation of locally available alternate mitigation options including several soil ameliorates; amelioration through phyto-remediation and bioremediations; and water management covering in situ and ex situ water harvesting techniques should be given top priority.
- Development of multi-storied agro-forestry (including alley cropping) practices for sustainable natural resource management.
- Integrated Farming System models to be developed for sustainable agricultural production, enhancing livelihood options and building resilience against adverse impact of climate change.
- Impact of climate change on land degradation should be monitored, using modern techniques of remote sensing and GIS.
- Collaborative research effort among the SAARC member countries may be considered to address the land degradation problem. SAARC Agriculture Centre may take initiatives to exchange views, interactions among the scientists and exchange visits as well as sharing of technologies among SAARC member states.

Policy issues for arresting land degradation in South Asia

- Policy investment should be made in research and development for solving land degradation problems to ensure food security, poverty alleviation, natural resource conservation and address climate change issues at the national, regional and global context.
- All member states and development partners working in the region may revisit their development agenda in view of intensity of land degradation problems
- SAARC countries should have their own land use policies pertaining to land degradation, diversion of agricultural land for non-agriculture uses and these should be implemented strictly.
- Policy makers need to be sensitized about the seriousness of the land degradation problem and the urgency to implement remedial measures.
- Web based database on land degradation issues including problems and available mitigation measures should be established. SAC may develop web based database for the SAARC member states.
- Preparedness and capacity building of all stakeholders to combat land degradation should be ensured.
- Rapid up-scaling of mitigation of technologies of arsenic, selenium, fluoride etc. may be taken up to reduce public health hazards.

Extension and development issues

- Inventorization of type and severity of various forms of soil degradation in the SAARC countries should be made on temporal and spatial basis, using modern tools and techniques.
- Development of technology modules for addressing each kind of land degradation and remedial measures that is easily understandable and adoptable by the implementing agencies.
- Action plan/road map for implementation of recommended technologies should be chalked out following participatory approach on watershed scale.
- Assessment of impact of technologies at the farmer's field should be taken up and appropriate mechanism should be ensured for their up-scaling at state and regional levels.
- Sharing of experiences related to utilization of the degraded lands for the productive purposes by using potential technologies. SAC may take up for SAARC countries.

Impact of land degradation on crop productivity

- Site specific data on impact of different land degradation processes on productivity of different crops/ land uses/soil based nutrient loss should be collected and documented and shared amongst all stakeholders for effective refinement in technologies. SAC can collect data on the topic and share among member states in South Asia.

Crop Production under Changing Climate: Agronomic Options

International Conference on "Crop Production under Changing Climate: Agronomic Options" was held at Bangladesh Agricultural Research Council during 6-7 October 2010 organized by Bangladesh Society of Agronomy (BSA) in association with SAARC Agriculture Centre (SAC). Renowned Agronomists from India, Pakistan, Sri Lanka, the Philippines and Sudan participated in the two-day conference. Fifty papers (50) on climate change and agriculture in Bangladesh and other parts of the world were presented at the conference.

Feeding the people of Bangladesh will be a major problem in the next 40 years since production of rice will decrease by at least eight percent and wheat 32 percent by 2050 due to climate change while the population will go up by 50-75 million over the existing 150 million. And agricultural scientists have to focus more on facing these challenges, specifically on developing adaptation measures, as climatic changes take place.

Mentioning Bangladesh as the country most vulnerable to climate change, the experts said the assumption of Inter-governmental Panel for Climate Change (IPCC) about sea level rise comes true in Bangladesh. Water level rises by at least 5.6 mm a year at Hiron point, 1.4 mm at Cox's Bazar and 2.9 mm at Khepupara, they said citing 2008 data from Bangladesh Water Development Board. The country will need another 10-12 million tonnes of food grains in 2050 in addition to the 300 million tonnes now to feed its population, the experts said at the inaugural session of the Conference.



Dr. M. Zainul Abedin, president of the agronomy society, highlighted in this keynote paper that climate change is affecting not only crop production but also health and nutrition of people and economic condition of the country. He also said that "ultimately serious degradation of livelihood may occur due to climate change." Drought, floods, water-logging, salinity intrusion etc are signs of climate change that are affecting agriculture seriously. And agricultural scientists have to come forward to deal with this situation.

Dr. Abedin mentioned that scientists have already innovated some varieties of rice which can tolerate salinity, flood water and even drought up to certain level. Bangladesh Rice Research Institute in cooperation with International Rice Research Institute has developed salinity-tolerant rice variety BR- 47. They have also developed rice varieties which can tolerate submergence due to floods for about two weeks.

Architech Yeafesh Osman, MP, Honourable State Minister for Science and Information & Communication Technology in Bangladesh, in his speech said that it is the duty of the agronomists to help the farmers at field level and guide the policy-makers to achieve the desired yield of crops. He urged the country's agronomists to innovative new crops for facing the adverse impact of climate change as well as ensuring food security. The pattern of food production is changing gradually in the region due to climate change. Adverse impact of climate change severely affects agriculture in Bangladesh. FAO representative in Bangladesh Mr. Ad Spijkers was also present at the conference. Four agronomists of Bangladesh have been awarded by BSA for their contribution.

Almost 400 Agronomist from different parts of Bangladesh and abroad attended in the international conference.



National Agricultural Research System in SAARC Countries - An analysis of system diversity

A Regional Consultation Meeting on "National Agricultural Research System (NARS) in SAARC Countries-An Analysis of system diversity" was organized by SAARC Agriculture Centre (SAC) in association with Bangladesh Agricultural Research Institute (BARI) during 22-23 December 2010 at BARI, Gazipur. Khd Abdul Mannan, MP and Hon'ble Member, Parliamentary Standing Committee for Ministry of Agriculture, Bangladesh and Prof. Dr. Md. Abdul Mannan Akanda, Vice Chancellor, Bangobandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU), Gazipur attended the inaugural session as Chief Guest and special Guest respectively. Relevant scientists and policy makers from SAARC member states attended the meeting and presented the status of NARS diversity. They also discussed among other issues such as constraints, administrative and financial matters, linkages with the other stakeholders.



Dr. Wais Kabir, Executive Chairman, BARC presented Keynote paper in the consultation meeting. Dr. Shirajul Islam, Director (Research), highlighted activities of BARI. Dr. S.K. Pal, Deputy Director (Agriculture), SAC welcomed the respected participants. Dr. Rafiqul Islam Mondal, Director, SAC presided over the inaugural session of the consultation meeting. The objectives of the meeting:

- ❑ Reviewing existing national agricultural research system (NARS) diversity
- ❑ Strength and weakness of the system
- ❑ Improving the existing research system in individual members states to address need of future demand.

NARS in the region played a significant role in leading green revolution by accelerating food production in developing appropriate farm technology. However, the region is facing newer challenges of food security associated with increased demand of diversified food items led by income growth, degradation of natural resources, IPR regime, climatic vulnerability and global price hike of food commodity. Under this background re-visiting of NARS in addressing emerging threat of food security and livelihood improvement with newer opportunities demands careful attention.

The NARS of the SAARC Member States though evolved with similar historical perspective, organizational structures, governance and management varies among the countries. Number of institutional innovations took place in the member states to support agricultural research. The consultation meeting reviewed the diversity of the NARS systems in the member states and found there is enough room for further development of the NARS in the region. This is more important when the countries are facing number of challenges in increasing agricultural production with decreasing natural resources, increasing diversified food demand and climatic uncertainties. This warrants developing NARS system more efficient and capable to deliver technology that can be transferred to the agricultural production system.

The SAARC Agriculture Centre will prepare proceedings for strengthening NARS of the SAARC countries. The document will contain primarily the recommendations of the workshop.



Recommendation of the Consultation Meeting

Thematic area I: Organization, Governance and Priority Setting

- Governing body of the apex organization should be an independent for formulating and implementing policy for efficient research operation. Keeping this in view it should be adequately represented by agricultural researchers, policy makers, extension experts, educationists and others associated with agricultural research and development, which will act as supreme authority for policy, administrative and financial decision.
- Depending on the systems of individual member country an efficient and effective autonomy is deemed to be necessary for proper functioning of NARS institutes.
- The research fund for the NARS institutes is to be allocated by the Government in the form of yearly block allocation.
- Review of the research programmes of the NARS institutes by external panels of experts on 5-year intervals is essential since tremendous changes occur both in research needs as well as development of sophisticated technologies.
- The apex body will approve the financial allocations for the NARS institutes on the basis of their research programmes and involvement of financial requirements for each programme.

- Five Year Research Plan along with Budgetary Plan has to be formulated by each institute, submitted to its apex body for in-depth review and finally approved by its Governing Body through review process.
- It is obvious from the extent of involvement of the apex body in planning, implementing and monitoring of the technological and financial aspects described above that demand a tremendous overhauling of the apex body as well as adequate human resource as pre-requisites for effective implementation of the services.
- The apex body should be adequately manned considering the extent of planning, monitoring, resource allocations, HR management of research programs and projects.
- Monitoring and Evaluation strategy should be developed and implemented for research conducted by each NARS institute on seasonal and yearly basis. Impact assessment of the research programs needs to be institutionalized with reference to investment in research undertakings. However, the organograms, mandates and management strategies of the institutes should be reviewed and evaluated by a panel of external experts after every five years.
- Considering the global advancement of science and technology, international and regional cooperation in agricultural research is getting much importance. Apex body for agricultural research coordination may be organized with an international relation wing to accelerating the benefit of such cooperation. The local offices of the international organizations may be located in the premises of the apex body for harnessing locational benefit.
- Apex bodies, therefore, may provide funds for research to the Universities/Private Research Agencies etc. through competitive grants basis for conducting required basic research.
- Agricultural research is being undertaken beyond institutes coordinated by the council or within the periphery of NARS, such as research entities in province/state or in other central/federal government. NARS should recognize those entities through complementarities.
- Innovative funding mechanism through competitive research grant programs, being operated in the member states (such as Agricultural Linkage Program, ALP of Pakistan, created under endowment fund) may be reviewed for possible adoption in other member states to supplement public research.
- Recent development in technology marketing in some countries may receive appreciation in other countries. This may be reviewed further for possible adoption through formulating adequate policy.

Thematic Area II: Research-Extension-Education Linkage

- Strategic guidance for effective linkages of the Research, Extension and Education organizations is to be formulated by the re-organized Governing Body of the apex body

for enhancing technology generation, validation and transfer. Krishi Vigan Kendra popularly known as KVK (Agricultural Science Center) in ICAR, India may be reviewed for possible multiplication in other member states, as proposed under Thematic Area I.

- Each apex body should have a technology transfer wing having provision for requisite number of personnel for monitoring and evaluating extension activities by the extension related entities. Apex body should provide guidelines for accelerating technology transfer process. National and local level nodal points comprising research and extension service providers should be strengthened and linked for efficient agricultural technology system.
- A large number of highly qualified scientists are engaged in universities. Collaborative research programs involving universities may be undertaken through strengthened linkage. For such linkage, research fund allocation, monitoring and evaluation by the apex body is to be established through liaison with UGC/competent authority of member countries.

Thematic Area III: Human Resource Management /Development

- To utilize the experience and skill in agricultural research, retirement age should be relaxed upto 65 years with an intention to retain merit in the system. The retirement age of the NARS scientists should be 65 years because the life span of people in the SAARC region has been increased substantially and health services have been improved significantly. Retiring them earlier than 65 years tantamount to a great loss to national wealth. Early retirement of scientists causes loss of the money spent on their education and training. Moreover, the nations loses the opportunity of tremendous benefit which could have been gained through application of the invaluable experience gathered by the early retired scientists during their service time.
- Enhancing scientific skill and leadership quality among the scientific professionals in addressing problems in the agricultural production system deserve special attention in the NARS in the region.
- An independent Recruitment Board should be established for recruitment of NARS scientists centrally to maintain uniform quality standard of the scientific professionals. Such a system of recruitment is likely to deter undue influence from other quarters. Likewise promotion of scientists should be under the purview of the apex bodies.
- There should be a National Agricultural Research Service cadre in each of the member country along with establishment of proper protocol of the scientists compared to the other cadres prevailing in the country.
- Each member country should review the human resource development and management system including career development, promotion, incentives, etc. to retain the scientists of the research institutes as well as allure those who already gone out of the country to come back and serve their nations.

- The SAARC Agriculture Centre should study and review the institutional innovations taking place in the members states as learning process of research managers and policy makers. SAC may further review the best practices/management practices/policies for retaining skilled scientists of the member countries through visit and on the spot analysis. This is needed because the country reports in the consultation meeting did not contain detailed information on the issue.
- Since agricultural research is a dynamic process and new challenges and opportunities are being developed at a fast rate in different countries, capacity building of agricultural scientists is crucial to make them successful in research program. Therefore, each NARS institute should develop a five year career plan for capacity development of their scientists and such plans should be reviewed by the apex body in keeping this with national relevance.
- System of exchanging/sharing of knowledge/technologies to be strengthened among the SAARC member countries on regular basis.
- Science centered administrative system should be introduced in the NARS instead of civil service centered system to create enabling environment for the advancement of agriculture. A system of promotion of scientists through upgradation of posts should be introduced irrespective of availability of posts in the upper tier.
- National Agricultural Scientist (NAS) and scientists emeritus scheme system should be introduced or strengthened in the SAARC countries taking advantage of available national skill and expertise in the country or abroad. Such introduction will ensure fruitful utilization of hard earned experience of some highly qualified scientists after their retirement through their engagement in some time bound and result oriented research programs.
- Management position of the NARS institutes (Director/Director General) should be filled up through a Search Committee formed by the Governing Body of the apex organization. Other research management positions should be filled up through seniority and leadership quality among NARS scientists.



SAARC Agriculture Centre organizes seminar to develop networking and dissemination of experiences and knowledge to the National Agricultural Research System (NARS), Extension departments, NGO's and related organizations active in the region.

The Centre organized following seminars during the year 2010 with a view to exchange ideas and dissemination of knowledge

AVRDC's Role and Future Strategies for Vegetable R & D in South Asia

A seminar was organized by SAARC Agriculture Centre (SAC), Dhaka on "AVRDC-The World Vegetable Center's Role and Future Strategies for Vegetable Research and Development in South Asia" held on 16 February 2010 at BARC Conference Room, Dhaka.

Dr. M. L. Chadha, Director, Regional Centre for South Asia of Asian Vegetable Research and Development Centre (AVRDC) delivered keynote paper in the seminar. Dr. Sk. Ghulam Hussain, Governing Board (GB) Member, SAC & Member-Director (Planning & Evaluation), BARC was present as Chief Guest. Dr. Md. Rafiqul Islam Mondal, Director of the Centre (SAC) presided over the seminar. Ms. Nasrin Akter, Senior Program Officer (Crop Management), SAC gave welcome address to the audience. Dr. Hemal Fonseka, Senior Program Specialist (Crops) of SAC was responsible for arranging the seminar. Eminent agricultural scientists, vegetable breeders and stakeholder from NARS institutes, universities and public private organizations attended in the seminar.

In his speech, Dr. Chadha mentioned the objectives of AVRDC which is "alleviate poverty and malnutrition in the developing world through increased production and consumption of safe vegetables". He mentioned AVRDC addresses the key issues- i. human health and safe food ii. productivity and income generation iii. maintaining and enhancing agro-biodiversity. Dr. Chadha highlighted the research directions of the AVRDC which are i. Innovative germplasm enhancement technologies for greater productivity, consumer's acceptance, and bio-fortification ii. Year-round supply of safe and nutritious vegetables iii. Indigenous vegetables for biodiversity, healthy diet and marketing and iv. Interactive and user-friendly information management. He also mentioned the global research and development thrust regarding vegetable that was germplasm conservation, evaluation and gene discovery, genetic enhancement, and varietal development of vegetables, safe and sustainable vegetable production systems, post harvest management and market opportunities, nutritional security,

diet diversification and human health. He also said that the priority research of the Center that would be building on crop diversity to deliver better vegetable varieties and produce for farmers and consumers, higher yields, more stable yields under stress, (e.g. heat, drought, flooding, salinization), improved high-value features, better nutritional quality, better resistance to pests and diseases, improving tolerance to abiotic stresses. He mentioned that following research were essential for growing healthier vegetables -developing integrated pest management practices, providing better net house vegetable cultivation technologies, developing and promoting sustainable good agricultural practice (GAP), off season and year round vegetable cultivation technologies, fertilizer and water management technologies. He also emphasized home garden for nutritional security and diet diversification. He has given following recommendations for vegetable research and development in South Asia.

Crop improvement and seed systems

- Collection, evaluation, documentation, conservation and exchange of germplasm
- Selection and hybridization for specific traits and molecular breeding for enhancing target based breeding efficiency
- Development of infrastructure, standardization of seed production chain and distribution
- Collaborate for human resource development and capacity building.

Integrated crop production

- Development of GAPs for rainfed/irrigated condition like healthy seedling raising, rain shelter, net house, plastic houses, tunnels, drip irrigation and other low cost options etc



- Development of crop specific IPM/TWM/INM techniques
- Organic/safe farming and home gardening
- Incorporate IVs in appropriate cropping systems.

Post-harvest, marketing and value addition

- Establishment of post-harvest standards
- Develop management practices for proper storage, post-harvest pests and diseases and monitoring of pesticide residue level
- Standardization of technologies for processing, maximizing quality and market value
- Developing system for market intelligence, promotion and value chain analysis

In the discussion session, most of the participants asked about the exchange of germplasm arrangement, training for human resource development, value chain and climate change tolerant varieties development as well as organic vegetable farming and share information. Chief guest Dr. Sk. Ghulam Hussain emphasized for human resource development and germplasm exchange among the SAARC member countries. Chairperson Dr. Md. Rafiqul Islam Mondal conveyed his deepest thanks and gratitude to Dr. Chadha for his comprehensive presentation and requested him for human resource development, germplasm exchange and to do work in collaboration for vegetable research and development in the region.



Agriculture in Bhutan

The Centre organized a Seminar on "Agriculture in Bhutan" on 21 August 2010 at its Conference Room. Mr. Mahesh Ghimiray, Research Specialist, RNR, Bhutan delivered his presentation. He highlighted Bhutan agriculture and present situation. Dr. Rafiqul Islam Mondal, Director, SAC presided over the seminar. Scientists from Bangladesh, Professional and Technical Staff of SAC attended in the meeting.

Status and Prospects of Jute Production in India

SAARC Agriculture Centre (SAC) and Bangladesh Jute Research Institute (BJRI) jointly organized a seminar on "Status and Prospects of Jute Production in India" on 5th October, 2010 at Bangladesh Jute Research Institute, Dhaka.

Krishibid Abdul Mannan, MP and Honourable Member, Parliamentary Standing Committee for Ministry of Agriculture and Dr. Md. Kamal Uddin, Director General, BJRI attended as Chief Guest and Chairperson in the seminar respectively.

Dr. B.S. Mahapatra, Director, Central. Research Institute for Jute and Allied Fibres, ICAR, India presented the paper in the seminar. He explained global statistics and production of jute and highlighted domestic consumption, export, minimum support price for sustainable jute farming, variety development, good quality seed, farm mechanization, improved postharvest techniques and finally possible areas of cooperation. Dr. Md. Rafiqul Islam Mondal, Director, SAC presented brief description of the Centre.



Agricultural Extension System in Sri Lanka and Bangladesh: System Delivery and Technology Dissemination

SAARC Agriculture Centre (SAC) organized a seminar on "Agricultural Extension System in Sri Lanka and Bangladesh: System delivery and technology dissemination" on 27 December 2010 at SAC. Dr. S.K. Pal, Deputy Director, SAC attended as Chairperson in the seminar. Dr. Wanigasundara, Professor, Department of Agricultural Extension Education, Faculty of Agriculture, University of Peradeniya and Dr. M. Abul Kashem, Professor, Department of Agricultural University, Mymensingh presented their keynote papers in the seminar.

Professionals and Technical Officers of SAC attended in the seminar.



New window opened

Value chain development on fresh vegetable

Mr. J.M.P.N. Anuradha, Department of Agricultural Extension, Faculty of Agriculture, University of Peradeniya, Sri Lanka participated in a short term research program of SAARC Agriculture Centre for three months from 1st August to 31st October 2010 under Graduate Research Program for 2010. Mr. Anuradha has been awarded this graduate research fellowship by the Centre.

He surveyed on "Major Domestic Value Chains for fresh Vegetables-A comparative study for Sri Lanka and Bangladesh".



During this period, he worked on vegetables sub-sectors in Bangladesh and identified that there is huge potential to achieve a significant economic growth through expansion and sustainable development of vegetables in Bangladesh. This research was an attempt to comparative study the major existing domestic vegetables value chains in Sri Lanka and Bangladesh in relation to functional characteristics of the value chain actors, linkages, governance structure and nature of information transfer mechanisms available for vegetable marketing in the respective countries. A comparative study was conducted with a total of 275 value chain actors in five different levels i.e. production, assembling, whole sale trade, retailing and consumption.

In order to facilitate marketing decisions and regulate the competitive market processes, it is essential to strengthen the linkages along the value chains for fresh vegetables in such a way the value chain actors could exchange information necessary for them to act competitively in the market. A strong public and private sector intervention is needed to upgrade the value chains for fresh vegetables in Sri Lanka and Bangladesh as a strategy to contribute to economic growth at the macro level. Value chains and value chain development work at domestic level should be encouraged in South Asian countries as a strategy to achieve sustainable alleviation of poverty and ensure food security.



New Look Program

New Look to program development process of SAC

A two days workshop was held during 30th June to 1st July 2010 at In-service Training Institute, Gannoruwa, Peradeniya, Sri Lanka organized by the Governing Board member of SAC from Sri Lanka which was sponsored by the Department of Agriculture, Peradeniya, Sri Lanka. The objective of the workshop was regional vetting on medium and long term program development on crops, livestock, fisheries and production economics sectors submitted by SAC. About 40 participants from various departments related to Agriculture attended and presented their useful inputs on the programs proposed by the SAC. In addition, the sixteen proposals on crops, 13 proposals on fisheries and livestock from Sri Lanka were presented in the workshop. Dr. M. Nurul Alam, Senior Programme Specialist (Priority System & Programme Development), SAC and Dr. Hemal Fonseka, Senior Programme Specialist (Crops), SAC attended the workshop to facilitate the workshop.



Exposure Visit to Sri Lanka on Agricultural Research and Development

A group consists of Begum Selima Akter Banu, Deputy Secretary, Ministry of Agriculture, Bangladesh Secretariat, Dhaka; Dr. Madan Gopal Saha, Principal Scientific Officer, Horticulture Research Centre, Bangladesh Agricultural Research Institute; Mr. Jaydeb Roy, Deputy Director, Department of Agricultural Extension and Dr. Muhammad Nasim, Senior Scientific Officer, Rice Farming Systems Division, Bangladesh Rice Research Institute visited Sri Lanka during 7-10 December 2010 organized by the Centre.

They visited following institutions in Sri Lanka

- Horticulture Crops Research and Development Institute (HORDI), Peradeniya and attended a presentation on the activities of HORDI. Three laboratories viz., Agricultural Chemistry, Plant Pathology and Tissue Culture and Agro-Technology Park which includes live display of organic vegetable production at home garden and a museum on traditional agricultural implements of Sri Lanka.
- Audio Visual Centre, Department of Agriculture, Gannoruwa, Peradeniya and University of Peradeniya and Royal Botanical Gardens, Peradeniya.
- Seed and Planting Material Development Centre (SPMDC), Gannoruwa and attended a presentation at the centre on their activities and plant material certification processes, different seed testing laboratories of the centre.
- Government Seed Farm, Kundasale and observed its different activities for seed processing.
- An agricultural training institute for diploma called Farm School, Kundasale and took part in discussion with the Principal and other officials.
- A hydro-electric power generating plant called Victoria Dam and Candy city.
- Agricultural Research Institute for up country wet zone, Nuwara Eliya and took part in a discussion on the activities of the institute.
- Rice Research and Development Institute, Batalagoda. Attended a presentation on the activities of the institute and exchanged views on bilateral interests and they observed the activities of Soil Science, Entomology, Plant Pathology, Grain Quality and Tissue Culture laboratories and experiments in the research fields.

Observation of the team

The visit was quite successful in identifying some technologies and research ideas which can be introduced to Bangladesh and opened up some new research avenues that can be undertaken. This type of multi-stakeholders exposure visit has been found to be extremely helpful for agricultural research and development of Bangladesh and even Sri Lanka. It can help develop collaboration and linkage between institutes working in agriculture in both the

countries. All SAARC countries can be benefited by arranging this type of bilateral visit in a group. Bangladesh can also continue this multi-stakeholders visit to SAARC countries.

There are many new crops and varieties in Sri Lanka being cultivated in the farmers field. Strong germplasm exchange programme can be undertaken among the SAARC countries for greater cooperation in agriculture.

Variety release and seed certification procedures of Sri Lanka are appeared to be similar to Bangladesh. This helps farmers get the good seeds and also increase production. The variety release and seed certification procedure are recommended to be strictly followed in our country. The SCA of Bangladesh needs to be strengthened and reorganized to build up capacity for certification of quality seed and propagules.

In comparison to Sri Lanka, the Agriculture Information System is very strong enough to fulfill requirement for dissemination of technologies among the farmers. Now a days different sophisticated high tech IT technologies are available which Sri Lanka uses successfully. Our AIS systems needs to be strengthened and can share the Sri Lanka's experiences in this regard.

In future this type of visit should be continued to gain hands on experience on agricultural research and development of other SAARC countries.

New Initiatives

Training course on "Manufacturing, Testing and Standardization of Agricultural Machinery"

A short training course on "Manufacturing, testing and standardization of agricultural machinery" was organized during 18-29 March 2010 at the Central Institute of Agricultural Engineering (CIAE), Bhopal, India for the participants from SAARC member countries. The training programme was sponsored by SAARC Agriculture Centre (SAC), Dhaka as a follow-up of regional workshop on "Farm Mechanization for Small Holder Agriculture in SAARC Countries" held during 22-24 September, 2008 in Bhopal, India. The inaugural session was chaired by Dr. Pitam Chandra, Director, CIAE, Bhopal. Dr. H.S. Biswas, Head, TTD, CIAE gave a brief account of the proposed training programme. Dr. Pitam Chandra in his inaugural address highlighted the importance attached to SAARC programmes by the Government of India. The key issues highlighted by him were increased productivity through efficient use of input, processing and value addition for food security, nutritional security and rural employment opportunities. There was also need for sustainable agricultural production and economic growth. The training might be a key factor among the SAARC member countries for sustainable development of agriculture and economic growth, he added. Dr. Muhammad Nurul Alam, Senior Programme Specialist, SAC, Dhaka as Guest of Honour highlighted the importance of mutual cooperation among the SAARC member countries for overall development of agricultural scenario and economic upliftment. He also stressed on the need of information dissemination among the member countries.



The training programme was a need based activity identified in the earlier Regional Workshop on Farm Mechanization of SAARC countries. The training was participated by 16 participants from Bangladesh, Bhutan, India, Nepal and Sri Lanka. The major objective of the training programme was to strengthen, manufacturing, testing and standardization of agricultural machinery for mechanization promotion in the region. The major course content included introduction to CIAE technologies, machinery for precision farming and field testing, field production pilot plant, ISAO 9000 certification, harvesting and threshing machines, computer aided manufacturing, material for critical components, standard components and materials, soya processing equipment and technology, ergonomics and safety consideration in agricultural machinery design, production process of selected critical components, jigs and fixtures, dies and punches etc. In addition, there were industrial visit to EICHER Tractors Factory at Mandideep, Kirloskar Pumps at Dewas. The participants could see the modern assembly line in the EICHER tractor factory, CIPET and AMPRI, Bhopal. The manufacturing technology and facilities of Kirloskar Pumps at Dewas was seen and appreciated by the participants. The participants were also exposed to the testing facilities of tractor and farm machinery at CFMTTI, Budni. The laboratory testing of IC Engines/Tractor Engines under ordinary and high ambient conditions, the pto power tests, engine break horse power test, hydraulic test and various other test facilities as per Indian standards were seen by the participants. Mr. V.N. Kale, Director, CFMTTI, Budni delivered a lecture and discussed with the participants regarding testing of tractors and farm machinery. During the visit to Central

Institute of Plastic Engineering and Technology (CIPET), Bhopal, the participants were shown various moulding facilities of plastic component. The material testing facilities were shown during the visit at AMPRI. Field demonstration and testing of class combine harvester was arranged in the nearby farmers field on wheat crop. The computer aided manufacturing (CAM) of critical components through vertical milling centre was shown to the participants in the CIAE research workshop.

The concluding session of the training programme was organized on 29 March, 2010 and was Chaired by Dr. S. D. Kulkarni, Project Director, SPU. Dr. H. S. Biswas, Head, Technology Transfer Division gave a detailed account of the training programme organized. The major issues emerged during group discussion and feedback from the participants were as follows:

- i) The testing facilities developed in India can be useful for SAARC countries for testing and evaluation of small machines. SAC may develop a common standard for these countries.
- ii) The small tools, implements, equipment and technology available in India can be suitable for SAARC member countries. Some of these machinery can be taken up through exchange programme for adaptation and popularization through exchange programmes. There is also need to strengthen testing and standardization facilities in SAARC region. The SAARC Agriculture Centre may play a role in this, issue.
- iii) The training programme has been very useful for promotion of manufacturing and agricultural mechanization requirements of SAARC countries. There is a need to standardize agricultural machinery that may also help reduce accidents. A common platform for SAARC countries for collaboration, standardization, testing and exchange of improved agricultural machinery shall be very useful. There is also a need in collaborative research. A set of prototypes may also be made available from CIAE.
- iv) The SAARC Agriculture Centre may strengthen exchange programmes, collaborative research and formulation of common standards.
- v) Exchange of prototypes, exchange of scientists for study visits and exchange of technical literature may be helpful for the SAARC countries.

The initiative and efforts taken by SAARC Agriculture Centre, Dhaka was highly appreciated and expected to benefit the member countries in promotion of mechanization for sustainable agriculture, food security and economic growth.

SAARC Seed Forum Starts Journey

The SAARC Seed Forum (SSF) was launched in a meeting at the Bangabandhu International Conference Centre in Dhaka, Bangladesh during Seed Conference and Fair 2010 organized by Seed Wing, Ministry of Agriculture, Government of Bangladesh and Bangladesh Seed Association.

As per recommendation of the Regional Workshop on "Quality Seed in SAARC Countries" held in New Delhi, India during 16-18 December, 2009, an adhoc "SAARC Seed Forum" is being constituted by the SAARC Agriculture Centre.

The objectives of the SSF are:

- To advocate and support development of harmonized and suitable policies and strategies and regulatory frameworks
- To help preparing action plan and pursuing of implementation for sustainable development of seed system of SAARC countries.
- To act as a common platform to promote business among the countries of the region and
- To take up any other activities as may be necessary to fulfill the mandate.

A sub-committee headed by Dr Nazmul Huda and eminent seed technologist was also formed to prepare the draft of the SAARC Seed Forum constitution.

The SAARC Agriculture Centre has been entrusted with the responsibility to place the SSF to its ministerial meeting for approval.

The meeting, attended by the members of the SSF with its first Convener and Director General of the Seed Wing of the Agriculture Ministry Mr. Anwar Faruque in the chair, took a five-point decision.

The meeting decided to hold its first congress in Dhaka in February 2011.

As per a decision of the SSF, businessmen, trading houses, researchers of public and private research organisations could be the founder member of the forum by paying a fee of \$300.

Dr. Malavika Dadlani of Indian Seed Science and Technology, Mitra Raj Dewani, Nepal Seed Association President; Mahbub Anam, Convener of Bangladesh Seed Association (BSA); Dr. Rafiqul Islam Mondal, Director of SAARC Agriculture Centre and Dr. Ibrahim Mobammad Syed, Senior Programme Officer were also present at the meeting.

New Dimension

Sustainable use of Water Resources in South Asia

One Consultation Meeting of SAARC-AusAid project on "Developing capacity in cropping systems modelling to promote food security and the sustainable use of water resources in South Asia" was held on 20 August 2010 at SAARC Agriculture Centre (SAC) Conference room organized by SAC. Renowned Scientists on Natural Resources Management from SAARC member states took part in the meeting.

This project was originated from an initiative by the Australian Government to support the SAARC and funded by AusAid and managed by ACIAR. A project concept note was prepared jointly by AusAid, Australian Centre for International Agricultural Research (ACIAR) and Commonwealth Scientific and Industrial Research Organization (CSIRO).

The objective of the project to improve water productivity in the rain-fed and irrigated smallholder farming systems in South Asia to enhance agricultural production and food security.

During the meeting the scientists reviewed the concept note of the proposed project proposal. Dr. Christian Roth, Senior Principal Research Scientists and International Projects Manager presented the project.



The meeting highlighted that water resources would be the major emerging threats to food security in South Asia. It calls for improved water productivity in both rainfed and irrigated agriculture. The meeting provided input to make improvement of the project.

Dr. Md. Rafiqul Islam Mondal, Director, as well Professionals and Technical Officers of the Centre also participated in the meeting.

New Initiatives

SAARC Initiatives on Regional Food Security

Final workshop on "SAARC Initiatives on Regional Food Security" was jointly organized by SAARC Agriculture Centre (SAC) and Asian Development Bank (ADB) during 14-15 November 2010 in Kathmandu, Nepal.

In 2008, Food and Agriculture Organization of the United Nations (FAO) assisted SAARC to prepare "Regional Strategies and Programme for Food Security in the SAARC member countries". One of the outputs of the regional programme was the identification of priority regional projects and accordingly development of the Project Concept Notes (PCNs), aiming to enhance food productivity and reduce post-harvest losses, increase safe food availability and accessibility to the poor and formulate appropriate strategies for food security in times of natural disasters.

Asian Development Bank (ADB) subsequently agreed to assist the SAARC Secretariat to develop five detailed project proposals from six of PCNs for submission to higher SAARC authorities and development partners for funding and implementation. Accordingly, SAARC Agriculture Centre (SAC) was designated to coordinate the matters on the part of SAARC. In April 2010, ADB launched TA Project (6512) "Promoting South Asian Regional Economic Co-operation II" to prepare the five project proposals; and recruited consultants to assist SAC in the formulation of the Projects accordingly.

On 19 and 20 May 2010, SAC organised an inception workshop in Bangladesh to launch the Projects' formulation process. The Workshop reviewed PCNs and guided the SAC/ADB project formulation team in preparation of the five detailed project documents. Participants of the workshop included representatives of the eight SAARC Member States and delegates from development partners (e.g. donors, United Nations agencies and NGOs) located in South Asia. Officials of the SAARC Secretariat and SAC were also participated.

Between May and October 2010, the SAC/ADB project formulation team first met in Dhaka on two occasions and also participated in consultative meetings with Governments and potential implementing partners in India, Pakistan, Sri Lanka and Bangladesh. The project



formulation team was also assisted by number of partners, namely FAO's Regional Office for Asia and the Pacific, FAO's Emergency Centre for Trans-boundary Animal Diseases, FAO-implemented and European Commission-funded "Improving Food Safety, Quality and Food Control in Bangladesh Project", International Maize and Wheat Improvement Centre, International Rice Research Institute and World Fish Centre. The Project Proposals are:

- Enhancing the Agricultural Productivity of Smallholder Farmers in Selected Water-limited Areas of South Asia.
- Promoting Balanced Use of Agricultural Inputs in Selected Intensively Cropped Areas of South Asia
- Post-harvest Management and Value Chain Development in South Asia
- Upgrading of Food Safety in SAARC Member States
- Institutionalisation of SAARC Mechanisms for the Control of Trans-boundary i) Animal Diseases ii) Aquatic Animal Diseases and iii) Plant Diseases.

On 14 and 15 November 2010, SAC organized a Final Workshop to consider the five Project Proposals, prior to their submission to the higher SAARC bodies; and the interested Development Partners for funding and implementation. The objective of the Workshop was to make a final review of the Project Proposals/Documents and to guide SAARC/ SAC in the appraisal of the five detailed project documents. Participants of the Workshop were included representatives of the eight SAARC Member States and interested development partners (e.g. donors, UN agencies, NGOs, representatives of the private sector, etc) located in South Asia, and officials/ staff of SAARC Secretariat and SAC.

Publications of SAARC Agriculture Centre, 2010

SAARC Agriculture Centre has recently published ten publications covering various issues of agricultural research for development in SAARC member countries. These are as follows:

1. SAARC Journal of Agriculture: Vol. 8, Issue 1&2, 2010

The Centre has been publishing the SAARC Journal of Agriculture (SJA) since 2003. The SJA contains scientific papers of original research and review articles in the field of agriculture and allied disciplines from the member countries. Vol. 8 Issue No. 1 of SJA contains 11 & Vol 8 Issue No. 2 contains 10 research articles in the fields of agriculture and allied disciplines from SAARC countries.

2. SAARC AgriNews, Vol 4, Issues 1, 2, 3 & 4 for 2010

SAARC AgriNews is a widely circulated quarterly Newsletter devoted for disseminating agricultural research & development finding for scientists, technologists, extension service providers, policy makers, students and farmers in South Asia.

3. SAARC News, Views & Ideas Vol 8, 9, 10 for 2010

This is a compilation of articles from leading daily newspapers from the SAARC countries. The content includes articles on agricultural technologies generated by different research institutes and universities related to crops, livestock, poultry, fisheries, etc.

4. Food Grain Situation in SAARC Countries, Bulletin No. 14, Crop Year 2009-2010

The 'Bulletin of Foodgrain situation in SAARC Countries' provides information on major food grains in the SAARC member countries, including production, anticipated demand, likely shortfalls, surplus, etc. The information will be useful for planning strategies for achieving food security nationally and regionally.



5. Directory of Ph. D. Dissertation on Agriculture in SAARC Countries Vol. 3 (India)

Graduate researchers of the many universities and colleges of the SAARC countries are carrying out useful basic and applied research for the degree programs. The Centre took an initiative to document these research output/ information/innovations from the educational institutions. Through networking with the various universities offering advanced degrees, the Centre has started compiling a directory of dissertations. In this connection, the Centre has been receiving huge volumes of abstracts of Ph.D. dissertations from Agricultural Universities. The third such directory "Directory of Ph.D. Dissertations on Agriculture in SAARC Countries 2000-2006, Vol. 3 India Chapter" is published in 2010.

6. Annual Report 2009

The report includes information about SAC objectives, major functions and completed activities and programs of 2009.

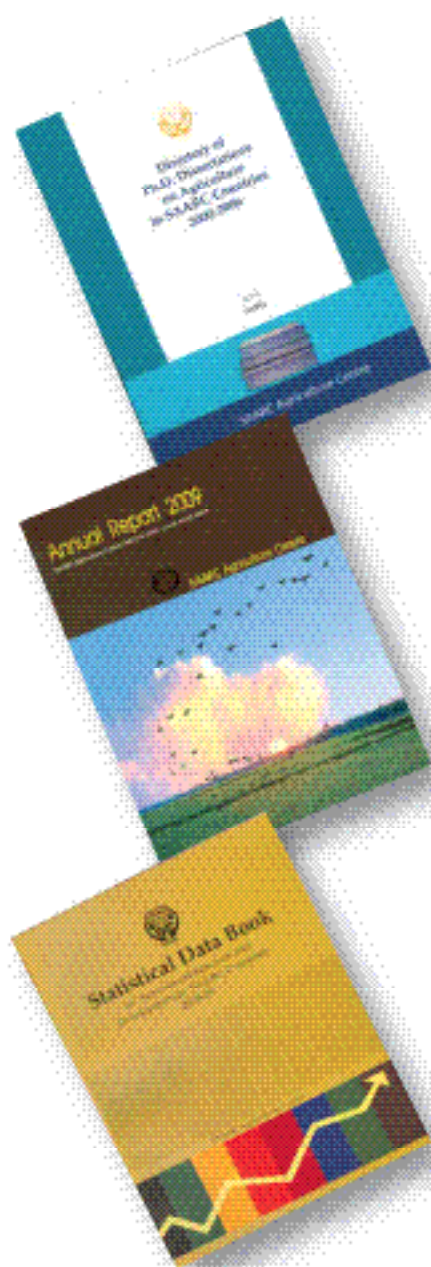
7. Statistical Data Book for Agricultural Research and Development in SAARC Countries 2008-09

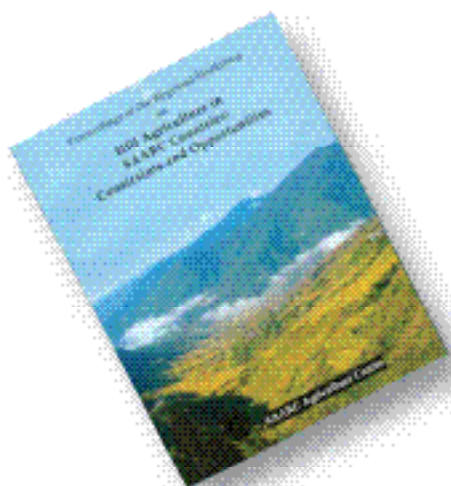
This twelve Chapter annual publication contains information on population, land use, irrigation, production and yield of primary crops, cash crops, vegetables, fruits, processed products, livestock, forestry, fishery etc.

8. Proceedings of the Regional Workshop on Hill Agriculture in SAARC Countries: Constraints and Opportunities

The proceedings contain 17 country papers including keynote paper and recommendations presented at the workshop.

Hill agriculture in most of the SAARC countries identified to be faced with challenges such as low stagnant productivity, unsustainable and exploitative natural resource management aggravated by undulating topography and faulty land use pattern with huge loss of soil, subsistence farming, low cropping intensity, economically less viable, and lack of





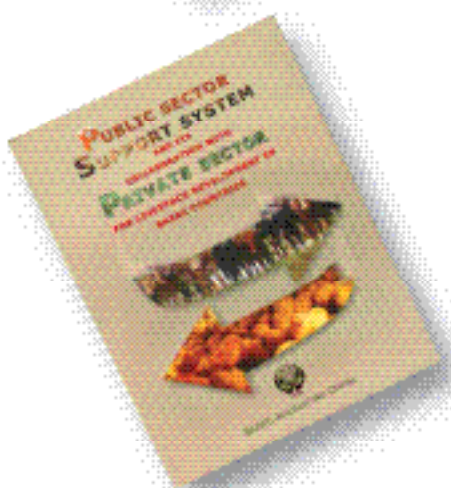
alternate employment to mountain people. However, agricultural prospect in hilly areas, where a variety of crop can be grown year round, has been identified provided availability of appropriate farming technologies and support service.

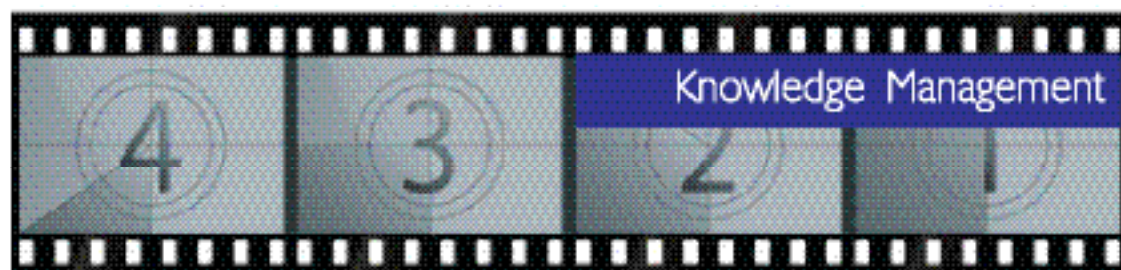
In this backdrop SAC took initiative to organize this workshop with the objectives to share the experiences and knowledge among the scientists on technological development, management of natural resources and ecosystem and other social services for livelihood development in hill agriculture.

9. Public Sector Support System and Its Collaboration with Private Sector for Livestock Development in SAARC Countries

Most of the countries in the SAARC region are populated with a very high density of livestock. Livestock sector gets less priority in the development programme and collaboration between private and public sector. Consequently the general public in the region suffer from malnutrition with a very low level of animal origin protein consumption. The livestock sector needs vigorous growth and its concomitant structural changes have resulted in a range of significant challenges that require to be addressed for sustainable and pro-poor growth of livestock sector in South Asia.

Public sector institutions are also helping farmers to acquire improved or cross bred animals besides training to the farmers, entrepreneurs and technicians. This publication highlighted the importance and present status of livestock in the region.





Audio Visual Production and Reproduction

The Video Lab of the Centre provides digital information and literature support to researchers, professionals, teachers, and students of different institutions of the region. It has a collection of 279 video films, on agricultural technologies and their application, out of which 231 were from SAARC member countries, 48 were produced and dubbed respectively at the Centre.

Production of Videos

Success Stories of the Dairy Development in SAARC Countries (India, Nepal and Pakistan) :

The Video film on " Success Stories of the Dairy Development in SAARC Countries" Nepal has been completed.

Dubbing and Subtitling of Video Films Initiatives

The Centre has taken initiative to dub/sub-titling of video films with joint collaboration with different Agricultural Institutes of SAARC member countries. In this connection correspondent with the Sri Lanka, Pakistan and Nepal had done. The Centre did four video films dubbed in the year 2009. Two from Sinhala to English i.e. (1) Technology of Rubber cultivation in Sri Lanka and (2) Triumph of the Golden Paddy (Rice cultivation). Two from Urdu to English i. e. (1) Drip Irrigation and (2) Sprinkler Irrigation.

Reproduction of Audio Visual Products

The following CDs reproduced and distributed in 2010

Agricultural Technology Development in Barind in Bangladesh
 Apple Cultivation in Nepal
 Appropriate Farm Mechanization in Bangladesh
 Bamboo and its propagation in Bangladesh
 Bangladesh Rice Research Institute and its Success
 Black Bengal Goat in Bangladesh
 Bee Keeping in Nepal
 Coffee Cultivation in Nepal
 Community based Mushroom management in Bhutan

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Current Practice of Sericulture in Bangladesh	22 copies
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Floriculture in India and its prospect	22 copies
Integrated pest management in Nepal	30 copies
Integrated pest management in Sri Lanka	34 copies
Jackfruits in Sri Lanka	32 copies
Kithul Palm Tree in Sri Lanka	42 copies
Livestock development in Bhutan	24 copies
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Mandarin in Bhutan	28 copies
Mango production in Pakistan	35 copies
Marvels of Himalyan Herbs in India	45 copies
Milk Production Cooperative system in Nepal	35 copies
Milk Testing Method for hidden Mastitis in Pakistan	28 copies
Multi Operational Machine for Agriculture in Pakistan	23 copies
Mushroom Farming through artificially cultured Spawn Production in Nepal	45 copies
Ornamental fish breeding and culture in India	54 copies
Ornamental foliage plants in Sri Lanka	25 copies
Paddy Cultivation in Sri Lanka	10 copies
Post-harvest technology of major fruit crops in Sri Lanka	48 copies
Potato Production from True Potato Seed (TPS)	38 copies
Poultry farming for rural women in Nepal	47 copies
Science and practice of Mushroom growing in India	37 copies
Seed production for better crops in Nepal	32 copies
Self paddy seed production in Sri Lanka	33 copies
Simple hydroponics in Sri Lanka	27 copies
Success stories of Dairy Development in SAARC countries (Nepal)	38 copies
Tea Cultivation and processing in Sri Lanka	20 copies
The Success Story of Rinderpest eradication in Nepal	39 copies
Transplanted Sugarcane in Bangladesh	27 copies
Triumph of a golden harvest in Sri Lanka	26 copies
Rice Harvest of Bangladesh	06 copies
Vermiculture and Organic Farming in India	24 copies
Upgrading Milk production through artificial insemination of local cows in Nepal	36 copies
free potato Seed Production through tissue culture in Nepal -06 copies	39 copies
Wheat: From deficit to surplus: A Spectacular Story 1996	12 copies
Floriculture in India and its prospect	32 copies
BRRI (Bangladesh) and its success	24 copies
Marvels of Himalyan Herbs in India	26 copies

Total 1,420 Copies

Video Telecast on TV

The Centre has taken initiative to telecast the following videos through different TV channels of Bangladesh:

1. Self Paddy Seed Production in Nepal
2. Self Production for better crop in Sri Lanka
3. Post-harvest technology of major fruit crops in Sri Lanka
4. Multi Operational Machine for Agriculture in Pakistan
5. Poultry farming for rural women in Nepal Vegetable
6. Seed Production in Nepal
7. Milk Production Cooperative System in Nepal
8. Mango Production and Post Harvest Management in Pakistan
9. Kitul Tree in Sri Lanka
10. Ornamental Fish Breeding and Culture in India
11. Community based Mushroom Management in Bhutan
12. Neem in Insect Control in India
13. Cultivation Technology of Rutton and Oyster Mushroom in India
14. Tea Plantation in India
15. Humming Honey Maker in India
16. Management of Plant Protection in Bhutan
17. Success Story of Soybean in India
18. Hybrid Rice Seed production Technology in India
19. Livestock Development in Bhutan
20. Seed potato production
21. Farm Mechanization in Bhutan
22. Higher Income from cultivation of Off- Season vegetable in the Hills (India)
23. Cultivation of Rabi Medicinal Plants (India)
24. Chokeria Sunderbhan in Bangladesh
25. Appropriate Farm Mechanization in Bangladesh
26. Triumph of the Golden Panic (Rice Cultivation in India)
27. Technology of Rubber Cultivation in Sri Lanka
28. Integrated Pest Management in India
29. Quality Protein Maize for Improved Nutrition (India)
30. Cotton Plant by products and their utilization (India)

- Nepalese team from Ministry of Agriculture visited SAARC Agriculture Centre on 13 April 2010
- K.E. Karunatilake, Secretary, Ministry of Agriculture, Sri Lanka and Mohamed Ali, Fisheries and Agriculture Minister, Maldives visited the Centre on 18 and 20 May 2010 respectively.
- A team consists of Director, Professionals of the SAARC Forestry Centre (SFC), Bhutan visited the Centre (SAC) on 1st August 2010. During visit, the Centre organized a meeting for objectives of the visits especially climate change in South Asia, common issues between two SAARC Centres.

Visit abroad

- Dr. M. Rafiqul Islam Mondal, Director of the Centre attended in the 37th session of the SAARC Programme Committee Meeting in Kathmandu, Nepal during 28-29 January 2010
- WorldFish Centre organized a seminar on Harnessing the Development Potential of Aquatic Agriculture System for the Poor and Vulnerable was held on 19 to 21 July 2010 at Penang, Malaysia. Dr. Rafiqul Islam Mondal, Director of the Centre attended the seminar.

Knowledge update

- Mr. Nure Alam Siddiky attended in a regional workshop on "Dairy Conference 2010" at Bangladesh Agricultural University, Mymensingh during 3-4 April 2010.
- Mr. Nure Alam Siddiky also attended in the 8th Annual Scientific Conference on "One Health One World-Bangladesh Initiative" at Hotel Agrabad, Chittagong during 23-25 September 2010.

Training

- Md. Nure Alam Siddiky, Program Officer (Livestock) of SAC attended a training course on Technical Report Writing and Editing held on 07-11 March 2010 organized by Agricultural Information Centre, Bangladesh Agricultural Research Council (BARC), Dhaka. Scientist from NARS institutes participated in the training program.
- A training course on "Agricultural Research and Development System in SAARC Countries" was held during 21-22 April 2010. SAC organized the training for Technical and General Staff for updating knowledge of Agricultural Research and Development System in SAARC countries. Renowned scientists, development experts participated as resource speaker in this course.

Book fair

"Ekushy February" (21st February) is the International Language day observed every year to mark the historical Mytires Day for language movement in 1952. Bangla Academy commemorates every year this day with various activities, mainly book fair all over the month of February. The Centre gives emphasis on sharing information with all stakeholders in agriculture sectors of the SAARC member states through publications comprises books, reports, journals, newsletters, annual reports and seminar/workshop proceedings and VCD. To spread out this theme the Centre took part in the Ekushe fair.



The fair was inaugurated on 1st February 2010 by the Hon'ble Prime Minister of the People's Republic of Bangladesh Sheikh Hasina. Large number visitors appreciated the Centre's stall. Dr. Rafiqul Islam Mondal, Director; Professionals and Officers of the Centre narrated details about the SAC activities to the visitors and the Centre received a good response from the booklovers.

In this year the Centre sold 70 books/ country study reports, 300 VCD during fair.



During 4-6 April 2010, the Centre took part with a stall in a fair organized by AgriTech Bangladesh at Winter Garden, Sheraton Hotel, Dhaka, Bangladesh.

The Centre products like books, VCD were displayed during fair. A good number of books, VCD were sold in this fair.



A two days Rice Fair of International Rice Research Institute (IRRI) was held at Bangabandhu International Convention Centre, Dhaka on 13-14 July 2010 in connection with celebration of 50th Anniversary of IRRI.

SAARC Agriculture Centre participated with a stall in Rice Fair. Begum Matia Chowdhury, Honourable Agriculture Minister, Ministry of

Agriculture, Government of Bangladesh opened the fair. A number of Centre's products have been sold during the fair.

The Centre also Participated with a stall during Seed Congress and Fair 2010 Organized by Seed wing, Ministry of Agriculture, Government of Bangladesh and Bangladesh Seed Association. A good number of Centre's Products were sold in the fair.

The Library at the centre provides information and literature support to the users from different institutions. The major collections of the Library are on agriculture and allied subjects. Library has more than 3500 volumes of books, 600 bound periodicals and 363 titles, annual reports and newspapers. The Library has introduced Digital Audio Visual Service containing number of digital video on agriculture. A computer based Bibliographic Database of all books, journals/proceeding, reports and Ph.D. Dissertations available in the Library. The database through development of customized Software and this service is available at the Centre website (Visit [www. saarcagri.net](http://www.saarcagri.net)).

Library Services

Library remains open from 9.00 a.m. to 5.00 p.m. Sunday through Thursday except Friday, Saturday and other government holidays. Presently the Centre Library renders the following information services to its in-house and institutional users:

Bibliographical Services

A Bibliographic Database of all journals available in SAC Library has been prepared in printed format and it is distributed among the relevant institutions in the SAARC member countries.

Current Awareness Services (CAS)

The Centre has been publishing News, Views & Ideas (Newspaper articles from among the member countries) and providing to 100 R&D organizations of the SAARC countries. Updated information on books, journals, proceedings, reports and monographs are provided in every quarter of the year by the Centre.

Photocopy Services

Photocopy services are also provided for necessary pages of books, journals, magazines and others Library information as per the request of the users.

Digital Audio Visual Services

The Centre Library is providing some selected digital audio-visual service for the users.

New Arrivals in 2010

In 2010, Library subscribed and received gift items totally 395 publications from SAARC member countries and other international organizations. Among the publications, there were 220 books, 44 journals, 18 Annual reports, 65 Newsletters and 48 magazines as shown in the table below.

Table 1. New arrivals in the Library

Country	Books	Journals	Annual Reports	Newsletter	Newspaper/Magazines	Total
Bangladesh	100	20	6	16	14	156
Bhutan	4	-	-	4	2	10
India	64	10	8	28	12	122
Maldives	-	-	-	2	-	2
Nepal	6	2	2	4	3	17
Pakistan	5	2	-	3	2	12
Sri Lanka	7	-	-	5	3	15
Others	34	10	2	3	12	61
Total	220	44	18	65	48	395

Networking and Internet Connectivity

The Centre has established a Local Area Network (LAN) with 40 nodes running with the Windows 2003 Server Software and 20 PCs have been connected with the Server at SAC. The Centre is also connected to the rest of the world with the establishment of the Internet connectivity with a 128/128 kbps duplex and a fully dedicated radio link. The Internet connectivity is established through the Non-Line of-Sight (NLOS) method Linux Server gateway. This will assist the Centre to access the internet and distribute information to the users among the member countries. After establishing the internet connectivity, actions have

been taken to maintain the linkages for faster correspondence to and from SAC. The Centre are maintaining a space of 2 GB in the server for enriching the site through uploading with more useful information appropriate for the users of the SAARC region.

Web Publishing, Updating and Attending E-mail

The website of SAC, <http://www.saarcagri.net> has been updated with the new programme of the Centre and other relevant information resources. Since January 2009, more than 5,000 people have visited the website and the number of visitors is increasing steadily.

CD-ROM Database Update and Acquisition

Agricultural Bibliographic Information Service (ABIS) is one such effort which is intended to help agricultural researchers of SAARC member countries to find bibliographic references and abstracts of research findings from a variety of major CD-ROM databases in the world.

In the year 2010, the Centre updated CD-ROM databases like, BEAST (Rename as Animal Production) Database, Biological Abstract Database and FSTA (Food Science) Database to enhance information resources of the Centre and extended CD-ROM Search Services through e-mail in the form of bibliographic records to researchers of the SAARC region.

Available CDs are follows:

Title of CD	No. of Copies
1. AGRICOLA (1970-2007)	45
2. BEAST CD(1973-2008) (Renamed as Animal Production Database)	10
3. BIOLOGICAL ABSTRACTS (1995-2008)	8
4. CAB ABSTRACTS (1990-2005)	67
5. CROP CD (1993-2007)	18
6. FSTA (1990-2008)	45
7. HORTICULTURE CD (1973-2008)	18
9. PARASITOLOGY (1972-2005)	16
10. PLANT GENETICS & BREEDING (1993-2008)	27
11. SOIL CD (1973-2007)	17
12. TREE (Forest Science) CD (1939-2008)	22
13. VET CD (1973-2008)	17

In 2010, a total of 480 requests were received from users in Bangladesh, Sri Lanka and China
In response, the Centre sent out 2,15,122 abstracts through e-mail as follows:

Sl. No.	Country	No. of Abstracts
1.	Bangladesh	2,11,867
2.	Sri Lanka	2443
3.	China	812
	Total	2,15,122

Progress from 1st January 2010 to 31st December 2010

The centre has taken an initiative to expand the CD-ROM search service to the users of the SAARC member countries.

The Essential Electronic Agricultural Library (TEEAL)

The Centre maintains The Essential Electronic Agricultural Library (TEEAL) i.e. agricultural library in a box. TEEAL is a full-text and bibliographic database of 136 of the world's most important scientific journals in the field of agriculture up to 2007, compiled by 600 international specialists in the field.

Available disciplines in the TEEAL are as follows:

- | | |
|------------------------------|-------------------------------|
| ◆ Agricultural Economics | ◆ Microbiology |
| ◆ Aquaculture | ◆ Natural Resource Management |
| ◆ Crop and Soil Science | ◆ Plant Protection |
| ◆ Food Science and Nutrition | ◆ Rural Development |
| ◆ Livestock Production | ◆ Veterinary Medicine |



Saarcagri.net Website

The Centre's saarcagri.net website is the key interface for establishing the regional agricultural information network of SAARC member country. It would provide scope for direct interactions with clients through options on information sharing of institutions, discussion forum and updating information on technological advances and issues on key agenda in the field of agriculture, livestock, natural resources, research, development, etc. The website is an interactive website with dynamic features and programmes to provide the latest content and information. Most of the dynamic information services are based on the databases. Appropriate search forms and input forms are created to retrieve and update the databases.



Fund

Two types of budgets are prepared for each fiscal year: Institutional and Program Cost budgets. In implementing the programs, the Centre aims to maintain a balance of expenditure between the institutional and Program costs.

The Institutional and the Program costs are shared by all the SAARC member countries according to the SAARC apportion formula.

As the host, the Government of Bangladesh provides capital costs and other infrastructure facilities. The capital cost support such as accommodation, furniture, vehicles, equipment etc. is proposed on an occasional basis based on requirements.

The shares of contribution for each SAARC country are as follows:

Sl. No.	Name of Countries	Institutional Cost share	Program cost share
1	Afghanistan	3.09%	5.26%
2	Bangladesh	47.87%	11.28%
3	Bhutan	3.09%	5.26%
4	India	18.76%	31.92%
5	Maldives	US \$ 500 (Fixed)	0.00%
7	Nepal	6.63%	11.28%
8	Pakistan	13.93%	23.72%
9	Sri Lanka	6.63%	11.28%
	Total	100%	100%

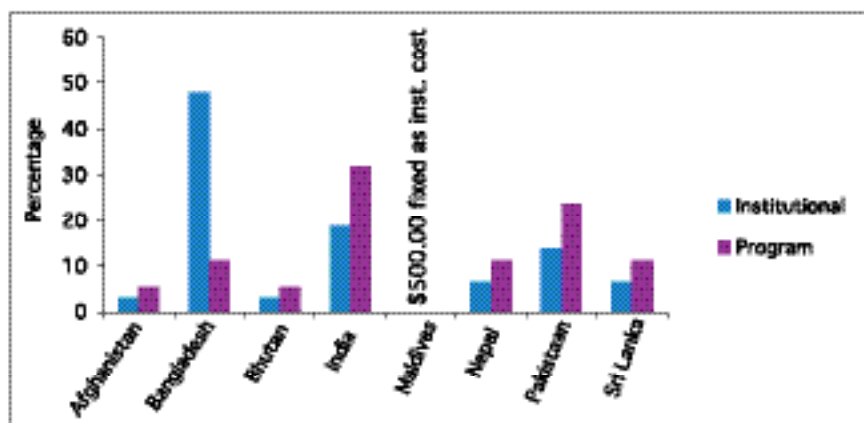


Figure 1. Contribution of SAARC member countries for SAC annual budget

Statement of Expenditure for the year 2010

A) Institutional Cost

SL No	Head of Accounts	Amount US\$
1	Allowances to Director and other Professional Staff	72,245.53
2	Salaries and Allowances to General Service Staff	175,663.12
3	Printing, Stationeries and Reproductions	3,101.17
4	Travel Cost and Perdiem	1,499.89
5	Utility Services and Maintenance	14,289.78
6	Local Hospitality for GB and Selection Committee meeting	8,465.87
7	Vehicle, Generator, Lift, AC etc maintenance and POL, Insurance	13,634.79
8	Contingencies	6,304.48
9	A) Total of Institutional Cost:	295,204.63

B) Programme Cost

Figure in US\$

SL No	Head of Accounts	Amount US\$
1.	SAARC AgriNews (4issues: 7500 each)	6,726.78
2.	SAARC Journal of Agricultural (2issues: 1000 copies)	9,565.56
3.	SAC Annual Report – 2009 (1000 copies)	1,478.68
4.	In-house Research and Publication on Thrust Areas of Agriculture in SAARC Countries	517.93
5.	Food Grain Situation in SAARC Countries (Yearly: 1000 copies)	272.21
6.	Printing of 2 Proceedings of Seminar/Workshop on Agriculture (1000 copies)	2935.86
7.	Observation of SAAARC Charter Day	3,260.84
8.	Training of SAC GSS	4,417.22
9.	Capacity Building & Professional Development	10,916.93
10.	Programme Building, Monitoring and Backstopping	7,490.58
11.	Periodic Services (Current Awareness/SDI Services)	2,536.70
12.	Acquisition of Information Materials in Agricultural and Allied Fields from SAARC countries	8,469.91
13.	Reproduction of Information Materials	70.48
14.	Reproduction of Audiovisual Products	496.85
15.	ICT Mediated Communication	16,129.32
16.	CD ROM database update and Computer software	11,918.08
17.	Distribution of Information Materials	21,116.50
18.	Promotional Activities on SAC and SAARC	6,032.21
19.	Seed in SAARC Countries: Production, Processing, Storage, Marketing etc	3,552.92

SL No	Head of Accounts	Amount US\$
20.	Strategies for Arresting land degradation in SAARC countries	24,930.68
21.	Impact of climatic parameters on agricultural production and minimizing crop productivity losses (1000 copies)	8,000.00
22.	National Agricultural Research System in SAARC countries	13,818.79
23.	Use of Compost/Organic fertilizer for sustainable agricultural production and soil health	2,000.00
24.	Public support/incentives in the production and marketing system in agriculture of SAARC countries	9,000.00
25.	Pesticide information sharing system for SAARC countries	4,500.00
26.	Training Programme at Premier Research Institute	16,432.00
27.	Internship, Exchange Visit, Exposure Visit etc.	8,768.05
28.	Veterinary public health and zoonotic diseases control in SAARC Countries	10,000.00
29.	Directory of Agricultural PhD Dissertations in SAARC countries	1,258.88
30.	National agricultural extension system in SAARC countries	174.92
31.	Dairy prod., quality control and marketing sys. SAARC countries	12,000.00
32.	Statistical data book for agric. research and dev. SAARC countries	3,845.15
33.	Public sector support system and its collaboration with private sec. for livestock dev. in SAARC countries	3,471.43
34.	Honorarium for short turn experts (specific skill)	706.38
35.	Miscellaneous Charges	292.35
B) Total of Program Cost:		237,104.19
Total Institutional and Programme Cost (A+B)		532,308.82
C)	SAARC – Australia Project on Food Security in South Asia	4,036.00
D)	ADB-SAC Project: SAARC initiative on regional food security	14,599.08
Grand Total(A+B+C+D)		550,943.90

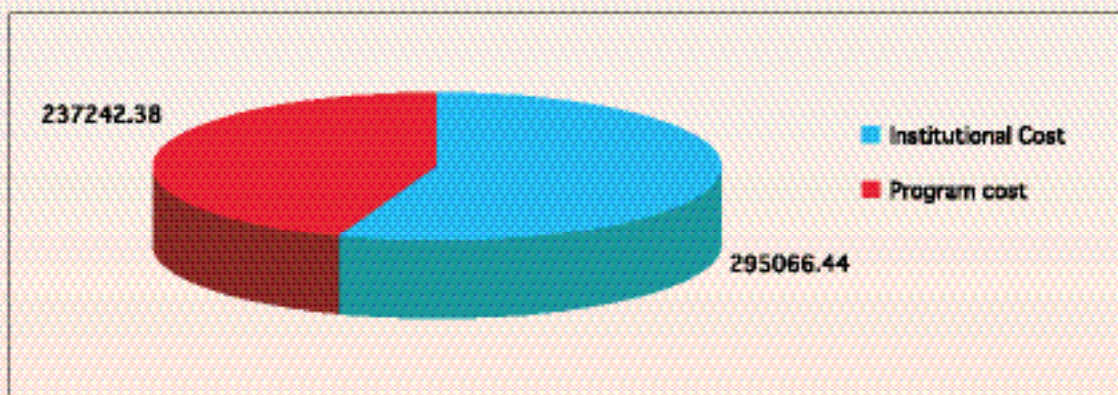


Figure 2. Proportion of Institutional and Program cost during 2010

Audit Certificate

Auditors' report on the receipts and payments account of the SAARC Agriculture Centre, Dhaka for the period 1st January 2009 to 31st December 2009.

1. The SAARC Standing Committee at its Twenty-eighth Session held in Dhaka on 19 - 20 August 2002 decided that the audit of the accounts of the SAARC Secretariat, SAARC Japan Special Fund and the SAARC Regional Centres will be performed by one Auditor each from the current Chair and the next Chair. Accordingly, the Governments of Bhutan and Sri Lanka have appointed Auditors for the Joint Audit Team 2009 to carry out audit of the Accounts of the SAARC Organization. Accordingly, the Governments of Maldives and Bhutan have appointed Auditors for the Joint Audit Team 2009 to carry out audit of the Accounts of the SAARC Organization. The Joint Audit Team (JAT) comprised of Mr. Mohamed Zaem, Assistant Director General, Auditor General's Office, Male', Maldives and Mr. Tempa Gyeltshen, Assistant Auditor General, Royal Audit Authority, Royal Government of Bhutan.
2. The JAT 09 has audited the accompanying Financial Statements of the SAARC Agricultural Centre, Dhaka which comprise the Receipts and Payment Accounts and schedules forming part of the Financial Statements for financial year ended 31st December 2009.
3. Management is responsible for preparation and fair presentation of these financial statements in accordance with the Harmonized Provisions relating to Financial and Administrative Matters of the SAARC Regional Centres and the Financial Rules and Procedures of the SAARC Regional Centres. This responsibility includes designing, implementing and maintaining internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error, selecting and applying appropriate accounting policies, and making accounting estimates that are reasonable in the circumstances.
4. The JAT09's responsibility is to express an opinion on these financial statements based on its audit. The JAT09 conducted the audit in accordance with the Generally Accepted Auditing Standards and International best practices. Those standards require that we comply with the ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.
5. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on auditor's judgment, including the risk of material misstatement of the financial statements whether due to fraud or error. In making those risk assessments, the auditor considers

internal controls relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on effectiveness of the entity's internal control.

An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made by the management, as well as evaluating the overall financial statement presentation.

The JAT09 believes that the audit evidence obtained by it is sufficient and appropriate to provide a basis for its audit opinion.

6. In our opinion, the Financial Statements give a true and fair view of the financial operations of the SAARC Agricultural Centre, Dhaka for the year ended 31st December 2009 and its fund balance as on that date.
7. We further report that:
 - 7.1 At the end of the year 2009, out of the total budgeted amount of US \$ 631,317, the SAC had incurred an expenditure of US\$ 495,916 only.
 - 7.2 There were accumulated funds of US\$ 66,441.98 and US\$ 94,236.12 under SAC Employees Gratuity Welfare Fund and Contributory Provident Fund respectively as at 31st December 2009.
 - 7.3 At the end of the year 2009, there was a negative balance of US\$ 43,581.73 (Taka 2,985,348.6) in Local Currency Account.

We received all information and explanation necessary for the proper conduct of audit.

Joint Audit Team

Mohamed Zaeem
Assistant Director General
Auditor General's Office
Male', Maldives

Tempa Gyeltshen
Assistant Auditor General
Royal Audit Authority
Royal Government of Bhutan

Dhaka, Bangladesh
05th - 06th July 2010

SAARC Agriculture Centre at a glance

The Heads of the States of Governments established the South Asian Association for Regional Cooperation (SAARC) on the 8th day of December 1985. Seven South Asian Nations, namely, Bangladesh, Bhutan, India, The Maldives, Nepal, Pakistan and Sri Lanka were the founder members of the Regional Association. Later Afghanistan became the eighth member country in 2006.

SAARC Agriculture Centre, (renamed in April 2007 from SAARC Agricultural Information Centre (SAIC) is the first regional Centre established by the SAARC. The Centre started functioning in 1988 with a mandate for information management, primarily in the field of agriculture.

With the passage of time, the Centre braced up to broader challenges to make regional cooperation more responsive to the needs of the various stakeholders and farming communities as South Asia heads for a new order of agricultural transformation. The SAARC Agriculture Centre was thus given an enhanced mandate for agricultural research and development, policy planning and knowledge management.

Goal

Promotion of agricultural research and development (R&D) as well as technology dissemination initiatives for sustainable agricultural development and poverty alleviation in the region.

Objectives

- ❑ To strengthen agricultural research and to accelerate technology transfer through establishing regional networks in agricultural and allied disciplines, particularly among agricultural research and extension centres, professionals, policy advisers and stakeholders.
- ❑ To provide inputs for developing regional policies, strategies, programmes, primarily through developing networks in crop, livestock and fisheries sectors; and for efficient utilization/management of soil, water and other resources.
- ❑ To promote new and innovative techniques and systems in agriculture including production, post-harvest and food processing.
- ❑ To facilitate collaborative studies, inter alia, on agricultural marketing and distribution systems, harmonization of agriculture related standards, promotion of agricultural trade, food security, risks and disaster management in agriculture.
- ❑ To facilitate and undertake collaborative capacity building programmes in agriculture and allied sectors with focus on skill development and research on frontier areas.
- ❑ To collate and disseminate information for agricultural advancement in the region.

Personnel

The Centre is manned with regionally recruited Professionals, Technical Staff and General Services Staff (GSS) from the host country. The staff plan, develop and implement programmes of the centre.

Funding

The Centre is supported directly by member states through their annual financial contributions based on the annual budget. In implementing the programmes, the Centre aims to maintain the balance of expenditure between institutional cost and programme cost. The program and institutional costs are shared by the member states according to the SAARC apportion formula. The Government of Bangladesh provides the capital cost as host government including infrastructure.

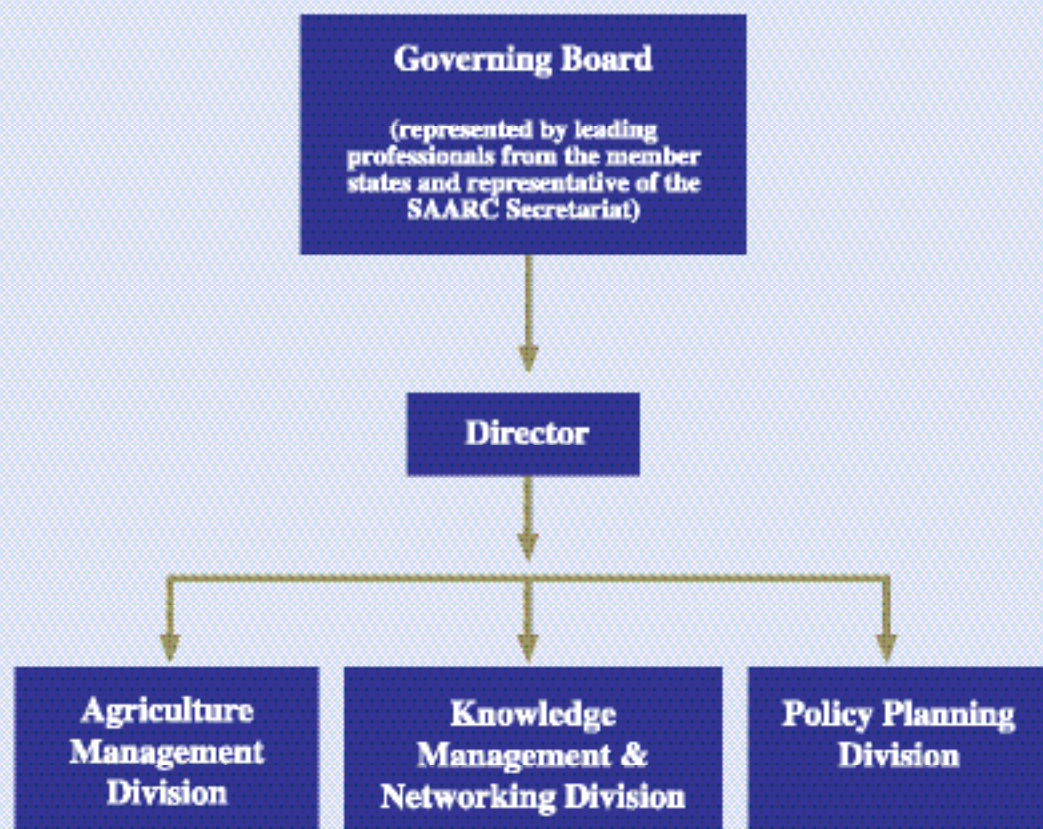
Programme Development

The Centre institutionalizes "Participatory need-based programme building through consultations in the member countries". The process involves participation of stakeholders at country levels and synthesis at the center level as well as synthesis and vetting at the experts level in member states for programme development. The SAARC Technical Committee on Agriculture and Rural Development (TCARD) and Inter Governmental Core Group also provides broad guidelines of programmes. The proposals are reviewed during the Governing Board (GB) Meeting for further direction.

The annual programme proposals recommend by the Governing Board are reviewed by the SAARC Programming Committee and subsequently approved by the Standing Committee.

Major Activities

- ▶ Providing policy inputs to the SAARC higher authorities for consideration through joint studies among experts of the region.
- ▶ Promoting outreach programmes through [www. saarcagri.net](http://www.saarcagri.net) to provide timely, relevant and universal access to information and knowledge resources to all agricultural practitioners of member states.
- ▶ Production of regular publications (newsletters, bulletins, journal, etc.).
- ▶ Production of technical study reports (directories, statistical bulletins, bibliographies, databases, union catalogue, workshop proceedings, etc.)
- ▶ Audio-visual media production and reproduction.
- ▶ Providing automated library services and on-line services.
- ▶ Hosting of workshops, seminars, symposium and human resources development programmes and carrying out in-house research and publications on thrust areas of agriculture.
- ▶ Establishing institutional linkages with relevant institutions.
- ▶ Undertaking activities leading to exchange of the best practices for adaptation and/or absorption; time-bound short and medium terms projects and programmes; and enhancing capacities of the agricultural communities of the SAARC countries.
- ▶ Providing literature services through CD-ROM databases.



Regional Member Countries



Afghanistan



Bangladesh



Bhutan



India



Maldives



Nepal



Pakistan



Sri Lanka

Regional Governing Board Members, SAC, 2010



Mr. Gh. Rabbani Haqiqatpal

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Director

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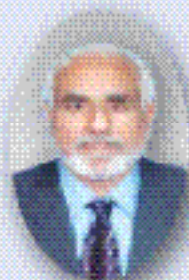
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30. Md. Altaf Hossain, MLSS
31. Md. Abu Taher, Janitor

Price list of SAC Publications

Sl No.	Title of the Publications	Price in US\$		Retail Price	Published year
		SAARC Countries	Other Countries	in BD Taka	
1.	Quality Seed in SAARC Countries: Production, Processing, Legal and Quality Control and Marketing System (Workshop Proceedings)	10.00	20.00	500.00	2011
2.	Public Sector Support System and its collaboration with Private Sector for Livestock Development in SAARC countries	6.00	10.00	300.00	
3.	Statistical Data Book for Agricultural Research and Development in SAARC Countries (2008-09)	8.00	10.00	300.00	2010
4.	Proceedings of Regional Workshop on Hill Agriculture in SAARC Countries: Constraints & Opportunities	5.00	10.00	250.00	2010
5.	Directory of Ph.D. Dissertations on Agriculture in SAARC Countries 2000-2006 Vol. 3, India	10.00	15.00	500.00	2010
6.	SAARC Journal of Agriculture Vol. 8 No.1	15.00	20.00	250.00	2010
7.	SAARC Journal of Agriculture Vol. 8 No.2	15.00	20.00	250.00	2010
8.	SAARC Journal of Agriculture Vol. 7 No.1	15.00	20.00	250.00	2009
9.	SAARC Journal of Agriculture Vol. 7 No.2	15.00	20.00	250.00	2009
10.	Fodder Germplasm in SAARC Countries	7.00	10.00	300.00	2009
11.	Status of Integrated Pest Management (IPM) in SAARC Countries	5.00	8.00	200.00	2009
12.	SAARC Journal of Agriculture Vol. 6 No.1	15.00	20.00	250.00	2008
13.	SAARC Journal of Agriculture Vol. 6 No. 2	15.00	20.00	250.00	2008
14.	Regional Workshop on Farm Mechanization for Small holders Agriculture in SAARC Countries	5.00	7.00	200.00	2008
15.	Directory of Ph.D. Dissertations on Agriculture in SAARC Countries 2000-2006 Vol. 2, India	10.00	15.00	500.00	2008
16.	Bibliography of Periodicals Available in SAARC Agriculture Centre Library (2nd Edition)				2008
17.	Livelihood Development through Agriculture in the Saline Prone Coastal Ecosystem of SAARC Countries	6.00	10.00	200.00	2008
18.	Best Practices in Animal Feed Production and Management in SAARC Countries	6.00	10.00	300.00	2008
19.	SAARC Journal of Agriculture Vol. 5 No.1	10.00	15.00	125.00	2007
20.	SAARC Journal of Agriculture Vol. 5 No.2	10.00	15.00	125.00	2007
21.	Statistics Data Book for Agricultural Research and Development in SAARC Countries	8.00	10.00	300.00	2007
22.	Crop Varieties in SAARC Countries	3.00	5.00	100.00	2007
23.	Regional Programme Development in Agriculture Through Consultations				2007
24.	Handbook on Livestock and Poultry Diseases in SAARC Countries	10.00	15.00	300.00	2007
25.	Training Manual and Interactive Multimedia CD ROMs on Presentation Technology	3.00	5.00	50.00	2007
26.	Catalogue on Natural Enemies of the Insect Pests Food Crops in SAARC Countries	10.00	15.00	300.00	2007
27.	Directory of Ph.D. Dissertations on Agriculture in SAARC Countries 2000-06 Vol. 1, Bangladesh	10.00	15.00	500.00	2007

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		SAARC Countries	Other Countries	in BD Taka	
28.	Bibliography of Periodicals Available in SAARC Agriculture Centre Library				2007
29.	SAARC Journal of Agriculture Vol. 4 (2006)	10.00	15.00	125.00	2006
30.	Proceedings of the Regional workshop on Research-Extension Linkages for Effective Delivery of Agricultural Technology in SAARC Countries	5.00	7.00	200.00	2006
31.	Guide on Medicinal and Aromatic Plants of SAARC Countries	10.00	15.00	500.00	2006
32.	SAARC Journal of Agriculture Vol. 3 (2005)	10.00	15.00	125.00	2005
33.	Risk in Agriculture and their Coping Strategies in SAARC Countries	5.00	7.00	100.00	2005
34.	Handbook on Fish and Crustacean Diseases in the SAARC Region			300.00	2005
35.	Agricultural Scientists and Technologists of SAARC Countries: 2nd Edition	10.00	15.00	500.00	2004
36.	Statistical Bulletin of SAARC Agricultural Data-2004	10.00	15.00	440.00	2004
37.	SAARC Journal of Agriculture Vol.2 (2004)	10.00	15.00	125.00	2004
38.	Proceedings of the Regional Workshop on Attempts and Successes of ICT Roadmap to Villages in the SAARC Countries	10.00	15.00	440.00	2004
39.	Technologies on Livestock and Fisheries for Poverty Alleviation in SAARC Countries	5.00	7.00	150.00	2004
40.	Agricultural Institutions in SAARC Countries: 3rd Edition	10.00	15.00	440.00	2003
41.	Statistical Bulletin of SAARC Agricultural Data-2003	10.00	15.00	440.00	2003
42.	Plant Genetic Resources of SAARC Countries: Their Conservation and Management	10.00	15.00	500.00	2003
43.	Proceedings of SAARC Workshop on Post harvest Technology	5.00	8.00	80.00	2003
44.	Role of Information and Communication Technologies for Poverty Alleviation through Agricultural Development in SAARC Countries	10.00	15.00	440.00	2003
45.	SAARC Directory of Seed Companies/ Entrepreneurs 2003	5.00	10.00	150.00	2003
46.	SAARC Journal of Agriculture Vol.1 (2003)	10.00	15.00	125.00	2003
47.	Statistical Bulletin of SAARC Agricultural Data -2002	10.00	15.00	440.00	2002
48.	Proceedings of SAARC Workshop on Soil Fertility Management for Increasing Productivity in Rice-based Cropping System	3.00	5.00	75.00	2002
49.	Annotated Bibliography on Seed Quality, Production and Preservation in the SAARC Region	10.00	15.00	440.00	2002
50.	Agricultural Research and Extension Systems in SAARC Countries	4.00	6.00	130.00	2001
51.	Quarantine and Phytosanitary Laws of SAARC Member Countries	6.00	10.00	150.00	2001
52.	Directory of Agricultural Periodicals of SAARC Countries (3rd edition)	10.00	15.00	500.00	2001
53.	Development of Horticulture in SAARC Countries	3.00	5.00	75.00	2000
54.	Regional Workshop of Experts in SAARC Countries on Transfer of Technology in Agriculture	3.00	5.00	75.00	1999
55.	Agricultural Information Systems and Services in SAARC Countries	3.00	5.00	75.00	1999
56.	Union Catalogue of Ph.D. Thesis of SAARC Countries	3.00	5.00	75.00	1999
57.	Agricultural Training in SAARC Countries	2.00	5.00	40.00	1998
58.	Agricultural Information Needs, Mode, Mechanism and Information Flow in SAARC Countries	2.00	5.00	50.00	1998
59.	Bibliography on Technologies for Drought-prone and Salt-affected AEZ in SAARC Countries	3.00	5.00	100.00	1998

Sl. No.	Title of the Publications	Price in US\$		Retail Price	Published year
		SAARC Countries	Other Countries	In BD Taka	
60.	Success Stories on Transfer of Farm Technology in SAARC Countries	2.00	3.00	50.00	1998
61.	Hybrid and High Yielding Crop Varieties in SAARC Countries	2.00	3.00	50.00	1998
62.	Innovative Agricultural Technologies in SAARC Countries	3.00	5.00	75.00	1998
63.	Agricultural Institutions in SAARC Countries: 2nd Edition	10.00	15.00	440.00	1996
64.	Database on Renewable Energy Resources in SAARC Countries (1996)	3.00	5.00	132.00	1996
65.	Directory of Agricultural Periodicals of SAARC Countries: 2nd Revised Edition	10.00	15.00	500.00	1996
66.	Database on Livestock Production Breeding and Management in SAARC Countries	10.00	15.00	440.00	1996
67.	Improved Equipment for the Farm People of the SAARC Region	5.00	10.00	220.00	1996
68.	Annotated Bibliography on Potato in the SAARC Countries	10.00	15.00	440.00	1995
69.	Bibliography on Fish Diseases in the SAARC Countries	3.00	5.00	132.00	1995
70.	Dynamics of Agricultural Biotechnology: SAARC Bibliographical Database	10.00	15.00	440.00	1995
71.	Postharvest Management in Agriculture SAARC Bibliographical Database	5.00	8.00	220.00	1995
72.	Agricultural Scientists and Technologists of SAARC Countries: 1st Edition	20.00	25.00	440.00	1993
73.	Agricultural Institutions in SAARC Countries: 1st Edition	10.00	15.00	440.00	1993
74.	Annotated Bibliography on Agroforestry in the SAARC Region	10.00	14.00	440.00	1993
75.	Directory of Agricultural Periodicals of SAARC Countries (1st edition)	10.00	15.00	500.00	1993
76.	Women in Agriculture, Gender issues in South Asian Farming	7.50	10.00	352.00	1993
Free of Cost					
77.	SAARC AgriNews (Quarterly)				
78.	Foodgrain Situation in SAARC countries				
79.	SAC Brochure				
80.	Vision 2020				
81.	Publications Catalogue 2010				
82.	SJA Booklet				
83.	Farm Mechanization Booklet				2008
84.	SAARC News, Views & Ideas				
85.	Video Catalogue				
86.	SAC Annual Report				2009
87.	Recommendations of the Regional Workshop on "Quality Seed in SAARC Countries: Production, Processing, Legal and Quality Control and Marketing System"				2010
88.	Recommendation of Regional Workshop on Hill Agriculture in SAARC Countries: Constraints & Opportunities				2010
Note: (i) The Booksellers in SAARC countries will receive 25% commission on all SAC Publications. (ii) Prices in the above list are inclusive of postal charges, applicable only in SAARC member countries.					

