



Promotion of Agricultural Research and
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The Observance of the 28th SAARC Charter Day



The Charter of SAARC is constantly reminding us our endeavors and commitment to assist the member countries for preparing the national plans of action to address issues of food security through agricultural development, poverty reduction, empowerment of women and human resource development.

The 28th SAARC Charter Day was observed on 8 December 2012 in Dhaka, Bangladesh jointly organized by SAARC Meteorological Research Centre (SMRC) and SAARC Agriculture Centre (SAC) with due solemnity to commemorate the adoption on SAARC Charter. In observance of the Special Day, the two SAARC Centres together organized various activities including Rally for raising awareness, Building and premises eluminating, display of the Centre's products and services, essay and painting competition by the children and university/college student as well as discussion meeting. Also a seminar was held at SAC and Bhutanese expert delivered a paper on Mushroom. Considering the importance of global warming, one topic selected for essay competition on "Climate for Agriculture" for the college and university student and an Art competition was arranged for children on the theme "Nature". A lot of student participated in the two events.

Rally

A rally was started from the premises of the Department of Fisheries to Press Club, Dhaka at the morning on 8 December 2012 to mark the occasion of the SAARC Charter Day. Directors and assembled personnel of the two Centre released pigeons with an enjoyable mode.

A good number of Scientists, Extension Service Providers, SMRC and SAC personnel were participated wore T-Shirt and caps with SAARC Monogram and SAARC Charter Day in the Rally.

Discussion Meeting

Mr. Syed Masud Mahmood Khundoker, Director General (S A A R C), Ministry of Foreign Affairs, Government of Bangladesh and Dr. Dawa Penjor, Program Director, Ministry of Agriculture and Forests, Royal



Government of Bhutan expressed their views on the SAARC Charter Day in the discussion. Embassadors; Representatives of the SAARC member countries; High Officials of various Ministries; Government; Non-Government; Private organizations; scientists from NARS Institutions; Extension service providers of Department of Agricultural Extension were attended in the discussion. Directors from two centres' gave special addresses on the SAARC Charter Day. The winners of the essay & art competition received awards from distinguished guests during discussion meeting.



Seminar



A seminar on "Mushroom Cultivation in Bhutan and its Prospects in SAARC Countries"

arranged by SAARC Agriculture Centre on 10 December 2012 at SAC Conference Room to observe the SAARC Charter Day.

Dr. Dawa Penjor, Program Director, National Mushroom Centre, Bhutan, presented the seminar paper. Dr. Abul Kalam Azad presided over the seminar. An important discussion was held between Bhutan & Bangladesh on Mushroom cultivation and its constraints and opportunities. BARC Senior Officers, Department of Agricultural Extension, Development Partners, NGO who involved in the Mushroom cultivation, University Professors and SAC personnel attended in this seminar.



Various events of SAARC Charter Day on 8 December 2012

Chili cultivation on char lands gains popularity in Bangladesh

Success story



The cultivation of chili has gained much popularity to the char dwellers in the Gaibandha district in Bangladesh recently as it has helped the growers change their socio-economic condition significantly.

Many of the farmers have already become self-reliant economically through cultivating chili on their char lands through using modern methods and technical supports from the field level officials of Government Organizations and NGOs.

A local organization in association with the non-governmental organization help the char dwellers significantly boost production of chili on the sandy land. Locals sources said earlier, the char habitants would cultivate chili on the char land like other vegetable and crops but they would not be able to earn more profit due to different reasons like lack of communication system and other marketing facilities.

In recent years, the char dwellers are cultivating chili with much enthusiasm and keen interest as they are getting bumper production of the variety and earning money from the cultivation and changing their fates gradually.

Modern cultivation methods, distribution of high quality seed to the farmers, availability of fertilizers, need based training and ensuring irrigation facilities including other agriculture inputs to the growers at fair prices are the main reason for boosting production of chili in the char areas.

As the harvest season the growers are so much busy to pluck the chili from the plants and selling it to the local hat and bazars at fair prices.

One successful farmer said, he earned US\$ 620 by selling 480 kgs of chili produced on 50 decimals of land against the production cost of US\$ 103.

Another farmer told that had already earned US\$1000 by selling 80 kgs of chili in the bazars in this season against the production cost of about US\$ 200.

A large number of farmers in Bangladesh have enabled to turn the wheels of the fortune.

Many of the poor char dwellers had cultivated chili on the land and taking lease it from the well off and affluent men of the areas and tried to be self-dependent gradually.

Chili trader who had come to bazar to purchase chili from the growers directly. Every customer liked to buy the variety as its quality, taste and biting was very good than that of any chili of other places. Many chili traders from different parts of the country including Dhaka, Rangpur, Naogaon, Sirajganj, and Joypurhat had come to the bazar to buy the variety from that at reasonable rate.

Upazila Agriculture Officer said that many of the poor char dwellers had overcome their poverty forever through cultivating chili on the sandy char lands as per the suggestion of the field level Department of Agricultural Extension officials and NGOs.

Source: Bangladesh Today

Annual Review Meeting on Regional Adaptive Trial on Selected Vegetable in SAARC member countries



SAARC Agriculture Centre (SAC), Dhaka organized an Annual Review Meeting on "Regional Adaptive Trial on Selected Vegetable in SAARC member countries" in collaboration with the Indian Institute of Vegetable Research (IIVR), Varanasi, UP, India, during 29-30 December 2012 for improvement of vegetable among the SAARC member countries. The eighteen (18) focal point participants from Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka attended in this programme.

Dr. P.S. Naik, Director, IIVR highlighted the importance of the vegetable in agriculture, nutritional security and livelihood security of resource poor farmers. He also briefly discussed about the role played by the National Agricultural Research System (NARS) in agricultural research and education in India and as well as IIVR activities for Vegetable development.

Dr. Md. Nurul Alam, SPS (PSPD), SAC provided brief background information on the genesis of vegetable program by SAC and inception of adaptive trials on selected vegetable such as brinjal, tomato, okra, cucumber and pumpkin in SAARC member countries. A brief account of trials conducted in the region during 2012 was provided in the meeting. Dr. Alam also informed that the World Vegetable Research Centre (AVRDC), Taiwan is ready to help SAC by providing seeds genotypes for the vegetable trials in SAARC member countries. He further said that since 2012 is the 1st year of SAARC Vegetable Adaptability Testing Network (SVATNeT), certain issues surfaced during execution of the programme and he felt that this meeting would be an appropriate platform to address these issues and decide future course of action. The focal points described details on adaptive trials of the selected vegetable in their own country.

In his inaugural speech, Dr. Kirti Singh, former Chairman, Agricultural Scientist Recruitment Board (ASRB), New Delhi, emphasised on need for improving productivity and production of vegetable in the region. He appreciated the SAARC Vegetable Adaptability Testing Network (SVATNeT) initiative of SAARC for evaluating vegetable varieties in different SAARC member countries. This would emphasize synergy and collective wisdom for socio-economic upliftment of small and marginal farmers in the region. Dr. Singh suggested that some more important vegetable may be included in this programme and similar programmes can be initiated for other crops such as cereals, pulses and oil seeds.

Outcomes

Major outcomes of the meeting are as follows:

- ★ Identification of better varieties in different countries based on results obtained from SVATNeT trials will help to improve vegetable productivity and production in SAARC region. In turn this would ensure nutritional security in the region and livelihood security of farming communities.
- ★ SVATNeT will be an effective instrument for exchange of material, sharing of scientific knowledge, human resource development and pooling synergies of research and development efforts of SAARC countries.
- ★ Effective and efficient implementation of this programme would enhance visibility of public sector in vegetable seeds which is now dominated by private sector.

Suggestions and strategies

- ★ Three trial locations may be selected by each country in such a manner that these locations cover entire country.

- ★ Untreated seeds of selected varieties of different countries should reach SAC, Dhaka by end January 2013.
- ★ Seeds should be tested for germination percentage before sending to SAC. Minimum germination percentage should be 80%. If germination percentage is 70%, accordingly more quantity of seed of respective variety should be sent to SAC.
- ★ The quantity of seeds of selected varieties to be sent to SAC by respective country should be as follows:

Crop	Seed requirement (each variety)
Tomato	: 50 g (5000 seeds) of each variety
Brinjal	: 50 g (5000 seeds) of each variety
Okra	: 750 g (4500 seeds) of each variety
Cucumber	: 100 g (4500 seeds) of each variety
Pumpkin	: 200 g (4500 seeds) of each variety

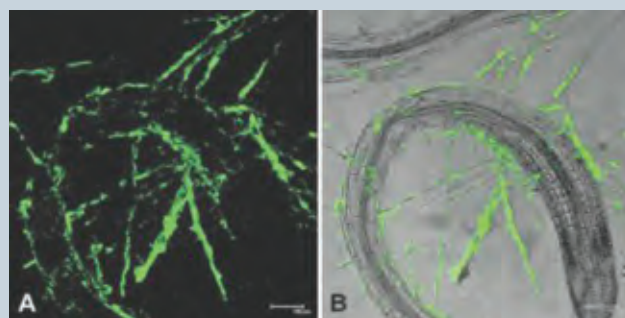
- ★ While supplying the seeds, sending country give salient features of each variety i.e. morphological characteristics (plant, growth habit, stem, leaves, flowers, fruits etc), Fruit shape, fruit colour, growth habit (determinate or indeterminate), resistances are important characteristics for selecting check varieties.
- ★ Good and promising material of other vegetable like chili and bitter gourd can be exchanged among the SAARC countries for expanding this programme.
- ★ Each country should introduce one mega-variety in each of these five crops. These mega-varieties may not be coded.
- ★ All the trials are to be planted at optimum time of planting in every country during crop season may be appended with report and also presented in annual meetings.
- ★ For comparison of data both local check and national check are essential but if the country does not have national check in concerned crop it can use locally available materials.
- ★ Observation should be recorded on yield, important diseases and major quality attributes.
- ★ The important diseases of different crops as identified for observation by all countries are as follows:

Crop	Diseases
Tomato	: Viruses and bacterial wilt
Brinjal	: Bacterial wilt and little leaf
Okra	: Yellow vein mosaic virus
Cucumber	: Viruses and powdery mildew
Pumpkin	: Viruses and powdery mildew

- ★ Respective countries should submit raw data to SAC. The SAC should analyse raw data submitted by all countries to identify regional varieties.

(Continued on page 7)

Bacteria Power; Bacteria to resist drought



When there is little water available for plants to grow, their roots form alliances with soil microbes that can promote plant growth even under water-limiting conditions, according to research published by Daniele Daffonchio and colleagues from the University of Milan, Italy in the open access journal PLOS ONE.

Symbiotic relationships between plants and soil microbial communities are critical to the health of plants. Though the effects of drought on plants are well-known, little is known about how lack of water affects the bacteria around plant roots.

In this study, the researchers grew pepper plants under conditions of limited water and analyzed the bacterial species around the roots of the plants. They found that drought stress enriched the microbial communities with bacteria capable of increasing plant photosynthesis and biomass production by up to 40% under limited water conditions.

According to Daffonchio, "Our findings highlight that fully functional plants cannot be considered single organisms anymore, but meta-organisms of the plant and its microbiome, which promotes essential functions like resistance to water stress. The promotion of drought resistance by bacteria can have important applications, for instance, in retaining high yields from plants even in the presence of lower irrigation".

(Plant root colonization experiments performed with a *Klebsiella pneumoniae* strain isolated from the pepper rhizosphere genetically labeled with a gfp. (A) and (B) colonization of *Arabidopsis thaliana* rhizosphere)

Source: Science Daily, e-mail: editor@sciencedaily.com

Workshop on Environmental and Social Safeguard in SPGR



A day long workshop on 'Environmental and Social Safeguard in Sponsored Public Goods Research (SPGR)' was organized by the Project Implementation Unit (PIU), Bangladesh Agricultural Research Council (BARC) on 13 November 2012 at BARC, Dhaka with the objective of collating information on the present environmental and social status with a view to compare with the start on any changes due to SPGR sub-project implementation. Principal Investigators submitted a baseline information of the sub-projects at the start on the social and environmental aspects in the format provided. After the passage of two/three years, time seemed to be ripened to assess the social and environmental matters as may be affected by the research activities. Other objectives of the workshop were to stimulate the Coordinators and the Principal Investigators on the importance of mitigation and maintenance of these two aspects and act in line with the National Agricultural Technology Project's (NATP) obligations. Orientation and emphasizing on the procedures to be followed in respect of social and environmental management of the SPGR sub-project was also the purpose of this review. Besides the Coordinators and the Principal Investigators, the Member Directors, Director's, Chief Scientific Officer, Principal Scientific Officers of BARC and representatives of Project Co-ordination Unit (PCU) and Krishi Gobeshona Foundation (KGF) attended the corkshop.

At the planning stage of the workshop, the current 106 numbers of SPGR being implemented by various NARS institutions and public universities were grouped into four risk categories using set screening criteria. Those

were a) High risk b) Moderate risk c) Slight risk and d) No-risk SPGRs. By doing so, 51 SPGRs were picked up covering the areas under crop, land/soil, water, livestock, forestry and fisheries. Rest were not taken into account as they were either truly 'harmless' (e.g policy studies and ICT etc.) or implementation begin only in the recent time and thus were not expected to have created any impact on the society and environment.

The workshop was divided into four sessions: The inaugural session, Technical Session 1 and 2 and the Concluding Session. Dr.

Md. Abul Kashem, Director, PIU in his address emphasized on the need of compliances to the social and environmental matters as may be affected due to the SPGR interventions. Mr. M. Anwar Iqbal, Monitoring & Evaluation Expert of PIU-BARC made the keynote presentation covering the workshop theme, NATP obligations, present SPGR activities and in a nutshell the present status of the environmental and social safeguard matter with the research implementations. Dr. Md. Abdur Razzaque, Project Director, NATP spoke on the importance of environmental and social safeguard issues and reminded all to collect information on a measurable form with supporting qualitative and quantitative data on the social and environmental changes. Dr. Wais Kabir, Executive Chairman, BARC in his address as the chief guest referred to the necessity of maintaining environment while executing any development activities. Both for donar and GoB assisted projects, social and environmental aspects are vital and need to be adhered to, he added. Dr. Kabir urged upon all to be careful, scientific in their pursuits and not to perform any activity that may cause harm to the society and environment.

Each Principal Investigators presented their work and findings on the social and environmental status as has been influenced by the research work. The presentations were followed by open discussion. The participants were encouraged to discuss/comment on the presentation and contents of the Principal Investigators and suggest for future improvement.

Visit



A delegation of 11 Officials from the Department of Agriculture, Ministry of Agriculture and Forests, Royal Government of Bhutan visited Bangladesh during 23-28 December 2012. The main purpose of the visit is to establish institutional linkages with the SAARC Agriculture Centre (SAC) and the relevant Research and Development Institutions in Bangladesh, explore possibility of exchanging technical expertise, information and technologies on rice and other crops. The team learned more about commercial rice farming, including varieties, post-harvest processing, milling and marketing aspects of the different commodities.

During their visit, they visited SAARC Agriculture Centre (SAC), Bangladesh Agricultural Research Council (BARC), Bangladesh Rice Research Institute (BRRI), Bangladesh Agricultural University (BAU), Bangladesh Agricultural Research Institute (BARI) and Lal Teer Seed Limited.

SAARC Agriculture Centre (SAC) arranged the programme and explored their visit in Bangladesh

(from page 5)

- ★ Small budget of up to US \$ 1000 may be allocated to each RTL to cover miscellaneous expenses during the experiment.
- ★ In next annual meeting all participant should bring (i) vegetable profile of their country and (ii) information on best varieties and technologies of their country. This information can be compiled as status report of vegetable production in South Asia.
- ★ Training programmes may be conducted at IIVR, Varanasi, India.
- ★ Visits to private sectors may also be included.

Controlling thrips in cardamom effectively

The cardamom thrips, *Sciothrips cardamomi* ranks first among the insect pests of cardamom and is considered to be the most destructive pest in all the cardamom growing tracts.

The damage is caused by both nymphs and adults as they colonize and breed in unopened leaves, leaf sheath, panicle, flower buds and capsules. They lacerate the plant tissue and feed on the exuding sap.

Flower shedding

There will be shedding of flowers and immature capsules. The cardamom pods become shrivelled, undersized, scabby, warty, malformed and lose their characteristic aroma.

The seed formation is also affected. The infested capsules are light in weight, inferior in quality and fetch very low market value.

It is estimated that 78 per cent by weight and 82 per cent by number of capsules are damaged due to thrips.

The adult thrips are tiny, yellowish in colour with fringed wings. They reproduce in large numbers especially during post monsoon seasons. Each female lay around 30 eggs. The incubation and nymphal periods are 8-12 and 10-12 days respectively. Pseudopupal stage takes five days. The complete life cycle from egg to adult takes 25-30 days.

Management practices

- ★ Maintain thrips resistant Malabar types of cardamom clumps.
- ★ Regulation of shade and removal of alternate host plants like *Panicum longipes*, *Hedychium flavescens* etc. in the vicinity of plantations would help in reducing the build up of this pest.
- ★ The panicle and 1/3 portion of the base of the clumps are to be treated with insecticides.
- ★ Spray 5-7 rounds of insecticides like quinalphos 0.025 per cent, phosalone 0.07 per cent, chlorpyrifos 0.05 per cent or profenofos 0.05 per cent at 35 days interval. Approximately 250-500 ml of spray fluid will be required per clump.
- ★ Alternatively dust formulations of quinalphos 1.5 D, carbaryl 10 D or phosalone 4D each at 25kg/ha may also be applied.
- ★ Removal of dried leaf sheaths prior to spraying increases the efficiency of the applied insecticides. It is advisable to do spraying as dusting is found more harmful for honey bees.

Source: J. Jayaraj & Manisegaran

Agricultural College and Research Institute, Madurai, Tamil Nadu, India

Regional Consultation Meeting on Coastal and Marine Fisheries Management in SAARC Coastal Countries



During 20-21 November, 2012, SAARC Agriculture Centre (SAC) in association with Marine Research Centre (MRC), Ministry of Fisheries and Agriculture, Male, Maldives organized a Regional Consultation meeting on "Coastal and Marine Fisheries Management in SAARC Coastal Countries". A total number of 27 participants from Bangladesh, India, Maldives, Pakistan and Sri Lanka were attended in the meeting.

Dr Hussain Rasheed Hhasan, State Minister, Ministry of Foreign Affairs (MoFA) graced the programme as Chief Guest while Dr. Abul Kalam Azad, Director, SAC was present as Special Guest. Mr. Adam Manik, Director, MoFA, Maldives gave welcome address and M. Golan Mustafa, Program Officer (Fisheries), SAC has presented a paper on "Coastal and Marine Fisheries Management: Programme Overview" and "Brief Presentation on SAC".

The workshop premeditated with four technical sessions and field trip to the local fish market.

Important Recommendations

- ★ Improve and strengthen management of the shared resources.
- ★ Improve digital mapping of the fisheries resources

- ★ Establishment of a autonomous regional agency for fisheries management (e.g, IOFA - Indian Ocean Fisheries Agency)
- ★ Strengthening data collection, compilation and dissemination
- ★ Strengthening of MCS systems
- ★ Undertake studies on climate impact to fisheries
- ★ Institutional capacity building in coastal aquaculture and marine culture
- ★ Mass seed production of important species (groupers, seabass, sea cucumbers, mullet, pomphrets, milkfish)
- ★ Regional management and prevention of transboundary transmission of diseases
- ★ Harmonization of good aquaculture practices
- ★ The commonalities practiced in the SAARC region should be implemented for sustainable Hilsa fisheries. Other countries in the region also should be coopted in these activities.
- ★ To protect the turtle breeding grounds in the SAARC region

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Green Agriculture with Plastic

Plastic is usually considered to be a big threat to the environment as it is not usually degradable. But a lot of improvement has been made in



etc., for more than a decade. It is a technically suitable and economically viable technology. It saves 60 per cent urea and 46 per cent water. Tubes, drippers and water tanks for drip

irrigation are made of plastics. recent years in the plastic sector and its use in agriculture is increasing very rapidly throughout the world. Bangladesh is no exception in this regard. Its use in agriculture, called plasticulture, in the form of polyvinyl chloride (PVC) pipes for deep tubewell (DTW) and shallow tubewell (STW), buried pipe for underground water distribution system for irrigation, flexible PVC pipes for conveyance of water of STWs and DTWs, and polybags for raising seedlings became very common in Bangladesh. In protected agriculture, vegetable and small fruits are grown giving some kind of protection from adverse weather like rainfall, temperature, wind, diseases, insects, water logging, etc. all of which seriously affect crop yield. In this system, crops are shaded by plastic sheets put on top of structure made of bamboo or galvanized iron pipes. Summer tomato is grown commercially in this system. All these uses have made agricultural operations easier and cost effective.

The first use of plastics in agriculture was in 1948 to make cheaper version of glasshouse. By 1999 almost 12 million hectares worldwide were covered in plastic mulch. The majority of the growth of plasticulture has happened in China, Japan and Korea. In Middle East and Africa, areas are increasing at 15-20 per cent per year compared to 30 per cent in China. In southern Spain around Almeria, the driest area of Europe, plasticulture is growing very rapidly to grow different crops. The area, previously non-cultivable due to shortage of water, became green due to plasticulture.

Technologies developed for other uses of plastics are:

Drip irrigation: In research fields, drip irrigation method has been used in Bangladesh for increasing the water and fertilizer use efficiencies of high value crops like aubergine, papaya, banana, guava, lemon, orange,

etc., for more than a decade. It is a technically suitable and economically viable technology. It saves 60 per cent urea and 46 per cent water. Tubes, drippers and water tanks for drip

Row covers: For vegetable production, row covers are used as a protective covering to shield plants primarily from the undesirable effects of cold and wind, and also from insect damage. Polyethylene and polypropylene are commonly used, which are very lightweight, often placed on wire loops to form low tunnels. It is left in place for several weeks until crops are well established. Sunlight, rain and air can penetrate through the shading material.

High tunnels: It is a tunnel made of polyethylene and iron or bamboo structure, usually semicircular, square or elongated in shape. Its height is lower than greenhouse and higher than row covers. The interior heats up because incoming solar radiation from the sun warms plants, soil and others inside the tunnel faster than heat can escape. This heating aspect made high tunnels popular in temperate region. In Bangladesh, India and many Asian countries, it is used to grow tomato during rainy season.

Plastic mulches: It is used in similar fashion to other mulches, to reduce evaporation from soil surface and to suppress weeds and insects. Besides, use of drip irrigation in conjunction with plastic mulch allows one to reduce leaching of fertilizers. It keeps ripening fruit and vegetables out of soil that ultimately decreases rotting and keeps them clean. Also it reduces soil compaction and root damage, increases crop yield, and ensures early harvest.

More uses of plasticulture are waiting for Bangladesh. Research and pilot-scale study have recently been started on new types of use.

Source: Dr Kshirode C Roy
Former Director General
Bangladesh Agricultural Research Institute (BARI)

Training

Nasrin Akter, Senior Programme Officer (Crops Management) of SAARC Agriculture Centre (SAC) attended a training on Rice: Postproduction to Market Training Course in International Rice Research Institute (IRRI), Philippines during 22 October-2 November 2012. During training she gained knowledge of recent technologies of post harvest operations in Rice production that help to coordinate post production to marketing related programmes/projects of the Centre and reduce the post production losses of rice in SAARC member countries.

New Publications

SAARC Journal of Agriculture:

Vol.10, Issue: 2, 2012

The SJA contains scientific papers of original research and review articles in the field of agriculture and allied disciplines from the member countries. Vol. 10, issue 1 contains 13 research articles in the same fields.

Enhancing Oilseed production through Improved Technology in SAARC Countries

The publication contains country study reports that helping developing strategies for enhancing oilseed production through better technology in SAARC Countries. It would help to collect the compile available information and data derived from research and practical experiences in the region.

Impact of Climatic Parameters on Agricultural Production and Minimizing Crop Productivity Losses through Weather Forecast and Advisory service in SAARC Countries

This book will help farmers and agri-business people and policy makers to utilize the real time weather information for improved decision making and management of agricultural systems for enhanced and sustainable productivity through minimizing the risk of weather aberrations.

Current Status and Future Prospects of Pulse production in SAARC Countries

Food legumes, pulses, play an important role in the rainfed agriculture and as a protein supplement food in South Asian diets. The book has been segmented into ten sections. The first section contains the executive summary and comprises the recommendations involving follow-up actions and programme. The second to ten section includes keynote paper, country papers on the Current Status and Future Prospects of Pulse production in SAARC Countries

(From page 8)

- ★ Joint operations for sustainable fishery and preservation of biodiversity in sensitive regions such as Gulf of Mannar, Gulf of Kutch.
- ★ Policy for exchange of technologies across SAARC region could be developed.
- ★ Suitable capacity building programs across SAARC region for aquaculture development maybe established.
- ★ Strict quarantine measures maybe developed and implemented for movement of brood stock and hatchery bred seed across countries.
- ★ Development of suitable climate change policy for fisheries and aquaculture

Regional Training Programme on Quality Seed Production, Processing, Testing and Certification of Rice and Vegetable

SAARC Agriculture Centre (SAC), Dhaka, Seed Certification and Plant Protection Centre (SCPPC), Peradeniya, Sri Lanka jointly organized a regional training on "Quality Seed Production, Processing, Testing and Certification of Rice and Vegetable" during 2-13 December, 2012 in Kandy, Sri Lanka.

The total 20 trainees from Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka participated in the program. During inaugural session Dr. Md. Nurul Alam, SPS (PSPD) from SAC briefly discussed about the training program. Renowned Scientists and extension service providers of Sri Lanka attended in the inaugural session. During training, trainers from Sri Lanka on quality seed gave lectures on good seed production, processing, post production on Rice and vegetable.

Regional Consultation Meeting on Collective Actions for Opening Access to Agricultural Information and Knowledge in the Asia-Pacific Region



A two days Regional Consultation Meeting on "Collective Actions for opening Access to Agricultural Information and Knowledge in the Asia-Pacific Region" was organized by SAARC Agriculture Centre (SAC) in collaboration with the Asia Pacific Association of Agricultural Research Institution (APAARI); Food and Agriculture Organization (FAO); Global Forum and Agricultural Research (GFAR) and Ministry of Agriculture and Forest (MoAF), Bhutan during 13-15 December, 2012 at Thimphu, Bhutan. A total number of 33 participants from different SAARC member countries were attended in the consultation.

Out come of the Consultation Meeting as Collective Action

- ★ Sensitization of SAARC Agricultural Ministers and Senior Policy Makers on ICM for agricultural development
- ★ Compilation of ICM projects and experts in the Asia-Pacific region and testing AgriVIVO with the dataset
- ★ Need-based training programs to ICM managers in the developing NARS

- ★ Policies and strategies on open access to agricultural research articles
- ★ Catalogue of e-extension initiatives in India with critical analysis on their impact on agricultural development
- ★ Development of AGROVOC in the countries
- ★ Development of Handbook of Agriculture on Wiki through collaborative contribution
- ★ Joining AgriFeeds by the NARS for effective sharing of information and news to global users
- ★ Joining CIARD RING
- ★ Developing Agricultural Information Repositories
- ★ Open Access to Agricultural Journals
- ★ e-learning module on opening access to agricultural information as part of IMARK

SAC, GFAR, FAO, APAARI, ICRISAT and all NARS Institutions to provide support as actors for implementing the actions recommended by Consultation Meeting

Regional Training Programme on "Quality Fish Seed Production Through Brood Fish Management in SAARC Countries"



SAARC Agriculture Centre (SAC) in association with Central Institute of Freshwater Aquaculture (CIFA), Kausalyaganga, Bhubaneswar, India organized a 10 days lengthened regional training programme on "Quality fish seed production through brood fish management in SAARC member countries" held during 1-10 October, 2012. The twenty(20) trainees from Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka participated in the training programme.

During inaugural session, Dr. B Meenakumari, Deputy Director General (Fisheries), ICAR, emphasized that now India is recognized for its proficiency and providing leadership to the neighbors in the field of fisheries development while inaugurating the training programme and also urged that quality fish feed is the basic requirement for successful aquaculture and quality brood would ensure quality seed. She laid emphasis on brood selection, its management, genetic up gradation and rearing of disease free seed.

Dr. Abul Kalam Azad, Director, SAC, said that the fresh water aquaculture in SAARC countries has many things in common. Aquaculture as a means to eradicate rural poverty and unemployment is being emphasized. CIFA which is known for its world class research and as a seat of learning in aquaculture has got many farm-worthy technologies on its platter. The member countries should take advantage of the technologies developed by this institute and disseminate in the SAARC member countries.

The following issues were discussed in the training course

- ★ Status of freshwater aquaculture and selective breeding programmes in India
- ★ Principles of carp breeding through hypophysation.
- ★ Carp brood stock husbandry management and quality seed production.
- ★ Pond and hatchery environment management
- ★ Genetic tools for stock improvements in Fish & shell fish
- ★ Gamete quality evaluation of carps.
- ★ Principles and practices of selective breeding of rohu.
- ★ Principles of off season breeding in Indian major carps.
- ★ Methods of marking / tagging in carp.
- ★ Identification of carp species through molecular tools.
- ★ Importance of minor carps in aquaculture.
- ★ Principles of cryopreservation of carp gametes. & its impact on stock upgradation.
- ★ Eco-carp hatchery and its management.
- ★ Disease management in brood stock & fish seed
- ★ Nutritional requirements and feed management for carp Economic impact assessments of improved carp breed in India

Published by

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