



NARS-CGIAR Interactive Session for Strengthening Partnership in South Asia

**National Agricultural Research Centre (NARS)
Islamabad, Pakistan**

22 October, 2013

Proceedings and Recommendations



Organizers

**Asia-Pacific Association of Agricultural Research Institutions (APAARI)
Pakistan Agricultural Research Council (PARC)**

Co-Sponsors



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For copies and further information, please write to:

The Executive Secretary

Asia-Pacific Association of Agricultural Research Institutions (APAARI)

C/o Food and Agriculture Organization of the United Nations

Regional Office for Asia & the Pacific

4th Floor, FAO RAP Annex Building

201/1 Larn Luang Road, Klong Mahanak Sub-District

Pomprab Sattrupai District, Bangkok 10100, Thailand

Tel : (+662) 282 2918

Fax : (+662) 282 2919

E-mail: apaari@apaari.org

Website : www.apaari.org

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Foreword

The Green Revolution in South Asia in mid-sixties became possible mainly due to strategic partnership between National Agricultural Research Systems (NARS) and the Centers under Consultative Group on International Agricultural Research (CGIAR). This ultimately led to much needed food security as well as significant reduction in poverty. In spite of spectacular successes in agriculture, this region still harbours nearly half the world's poor and stands way behind in achieving Millennium Development Goals (MDGs). This is primarily due to emerging challenges in agriculture on account of shrinking natural resources, factor productivity decline, increasing pressure of biotic and abiotic stresses and above all the impact of climate change. Obviously, these challenges are posing great threat to our food security and livelihood of millions of farm families in the region.

To address these complex challenges of varied magnitude, the strategies and actions are warranted at different levels and scales; simple to complex, individual to multi-stakeholder oriented and local to regional in nature. These changes necessitate another "Agricultural Revolution", through renewed emphasis on innovation, scientific collaboration and enhanced investments on agricultural research for development (AR4D). This can be achieved only by building new partnerships among National Agricultural Research and Extension Systems (NARES), CGIAR Centers, private sector organizations, NGOs and the farmers. Considering this fact, the Asia-Pacific Association of Agricultural Research Institutions (APAARI), Bangkok, Thailand and Pakistan Agricultural Research Council (PARC), Islamabad, Pakistan with support from CGIAR Institutes like ICARDA, ICRISAT, CIMMYT, IFPRI and Bioversity International had organized "NARS-CGIAR Interactive Session for Strengthening Partnership in South Asia" at Islamabad, Pakistan on 22 October, 2013. Organizing this brainstorming session was indeed timely to have focused discussion on our future priorities and strategies to strengthen partnerships between NARS and CGIAR for shared vision in AR4D and for catalyzing policy makers to create an enabling environment to achieve food, nutrition and environmental security in South Asia.

I believe that the session proceedings and the key recommendations embodied in this publication will immensely help the planners, researchers, farmers and other stakeholders in building strong partnerships to attain resilience in agriculture for improved livelihood of millions of farmers in the region.



Raj Paroda

Executive Secretary
APAARI

Acronyms and Abbreviations

AERS	Agricultural Economics and Rural Sociology
AFA	Asian Farmers Association
APAARI	Asia-Pacific Association of Agricultural Research Institutions
AR4D	Agricultural Research for Development
AR4R	Agricultural Research for Result
ARC	Agricultural Research Council
BARC	Bangladesh Agricultural Research Council
BISA	Borlaug Institute for South Asia
CARP	Council for Agricultural Research Policy
CAU	Central Agricultural University
CGIAR	Consultative Group on International Agricultural Research
CIMMYT	International Maize and Wheat Improvement Center
CRP	CGIAR Research Program
FACP	Food and Agriculture Committee of Pakistan
FAO	Food and Agriculture Organization of the United Nations
GCARD	Global Conference on Agricultural Research for Development
GFAR	Global Forum on Agricultural Research
ICAR	Indian Council of Agricultural Research
ICARDA	International Center for Agricultural Research in the Dry Areas
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICT	Information Communication Technology
IFPRI	International Food Policy Research Institute
IMOD	Inclusive Market Oriented Development
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IWMI	International Water Management Institute

JIRCAS	Japan International Research Center for Agricultural Sciences
MDG	Millenium Development Goal
MTA	Material Transfer Agreement
NARC	National Agricultural Research Council
NARC	National Agricultural Research Centre
NARES	National Agricultural Research and Extension Systems
NARS	National Agricultural Research System
NDRI	National Dairy Research Institute
NGO	Non-Government Organization
NRM	Natural Resources Management
PARC	Pakistan Agricultural Research Council
PPP	Public Private Partnership
R&D	Research and Development
RWC	Rice-Wheat Consortium
SACAN	South Asia Conservation Agriculture Network
SARC	South Asian Association for Regional Cooperation
SMTA	Standard Material Transfer Agreement
SRF	Strategic Research Framework
SSA	Sub-Saharan Africa
TAAS	Trust for Advancement of Agricultural Sciences
UNICEF	United Nations Children's Fund

NARS-CGIAR Interactive Session for Strengthening Partnership in South Asia

Introduction

In 1969, Dr. Norman Borlaug had forewarned the researchers and policy planners that “Seriousness or magnitude of the world food problem should not be underestimated; recent success in expanding wheat, rice and maize production in Asian countries offers the possibility of buying 20-30 years of time”. In the past, the ‘strategic and innovative partnerships’ in agricultural research for development resulted in Green Revolution, which led to significant food production and reduction in poverty from almost 75 per cent during 1960’s to less than 40 per cent during the last decade of this century. Despite this, South Asia, with 1.6 billion people, is still a home to nearly half the world’s poor. About 70 per cent of the population and majority of the poor today live in rural areas of South Asia. They rely on farming for their livelihood. Therefore, to attain Millennium Development Goals (MDGs) in the region, the growth in farm sector, which has invariably been showing a diminishing trend, has to be accelerated. The mismatch between increasing food demand for growing population and shrinking natural resources has posed a major threat on future food security and livelihoods of millions of farm families. To address these complex challenges of varied magnitude, both strategies and actions are warranted at different scales; simple to complex, individual to multi-stakeholder and local to regional. This requires a paradigm shift in our thinking and actions not only for development of technology but also for shared vision and partnerships.

Today, the advancements made in science, technology and innovation, provide ample opportunities to dramatically improve productivity and production to sustainably feed the ever-growing population in South Asia. There is a growing optimism and opportunity for a “sustainable agricultural revolution”, to strengthen agriculture R&D for enhancing food security across South Asia. This process would need new innovations, increased investments and strengthened partnerships between different countries, Consultative Group on International Agricultural Research (CGIAR), private sector, and other agri-stakeholders at different levels. It is quite evident that in the past, collaboration between NARS and CGIAR led to Green Revolution and had helped to attain food security in the region during the past 50 years. Keeping in view the enormous new emerging agricultural challenges with depleting natural resources, interlinked with rapidly increasing globalization and ageing agriculture, it becomes evident that no single individual or organization can meet the expectations of all stakeholders. Therefore, the way forward warrants an integrated approach through strengthened collaboration and partnership for attaining a sustainable agricultural production system. Realizing these challenges and opportunities, the Asia-Pacific Association of Agricultural Research Institutions (APAARI) Bangkok, Thailand and Pakistan Agricultural Research Council (PARC) Islamabad, Pakistan jointly organized a brainstorming session “NARS-CGIAR Interactive Session for Strengthening Partnership in South Asia” at Islamabad, Pakistan on 22 October, 2013.

The Session focused on future priorities and implementation strategies for strengthening partnership between National Agricultural Research Systems (NARS) and CGIAR for shared vision in

agricultural research for development (AR4D) and catalyzing policy planners for developing a food, nutrition and livelihood secure society in the region. The Technical Program of Interactive Session (Annexure I) was structured with focused deliberations to prioritize and delineate pathways to strengthen collaboration between NARS and CGIAR to gainfully capitalize the available options and opportunities arising from the existence of GGIAR Research Programs (CRP's) and Borlaug Institute for South Asia (BISA) in the region. The experts from NARS and CGIAR deliberated in-depth during the workshop and identified the priorities and policies for future collaboration and partnerships in a win-win situation. A total of 85 participants from 19 Countries (Annexure II) including 16 Heads of NARS or their representatives from Asia, 4 CGIAR Director Generals or their representatives, and other senior level policy makers and young professionals from NARS, GGIAR, NGOs, private sector and farmer organizations attended the deliberations. This report embodies the outcomes of deliberations and key recommendations for strengthening NARS-CGIAR partnership to achieve sustainable farming systems in South Asia.

Inaugural Session

Dr. Iftikhar Ahmad, Chairman, Pakistan Agricultural Research Council (PARC), welcomed the Chief Guest, distinguished invitees and delegates and emphasized that global world is based on knowledge and innovations. He exhorted that capacity of a country's growth depends on grasping and making use of these innovations. Many countries in Asia have traditional economy with agriculture as its base. The agriculture needs to be converted to industry and youth has the power to convert agriculture to industry. But, this cannot be achieved in isolation and hence, there is a strong need for NARS and CGIAR to work together closely adopting a regional approach. The Asia-Pacific region has widespread poverty and almost 50 per cent population is below 20 years of age, which calls for the greater engagement of youth through creating entrepreneurship in agriculture. He further stressed that youth is the major social capital in the Asia-Pacific region and they have the capacity and capability to bring the second green revolution. But, youth needs proper guidance and work environment which can be achieved through enhanced regional/global partnerships.

Dr. Simon Hearn, Chairman APAARI, in his welcome address, emphasized that in today's world, regional research is getting more and more important and, therefore, regional partnership needs greater attention due the common problems of changing climate and agricultural production constraints. He stressed that APAARI can play a wider and important role for catalyzing partnerships and collaborations and can provide evidence based advocacy through a common neutral platform in the region. There is a strong need to learn from each other's experiences which can be achieved through better partnerships. In addition, the role of donors is also extremely important at the national and regional level so that good R&D programs can be initiated at right time. He further stressed that CGIAR contributed significantly in the past and has to play very important role in the future as well for addressing the emerging challenges facing agriculture at all levels.

Prof. Ahsan Iqbal, Federal Minister for Planning, Development and Reforms, Government of Pakistan emphasized in his inaugural address (Annexure III) that youth can play much greater role in the developing world, especially in the Asia-Pacific region. Hence, there is a strong need to invest more on youth and create better opportunities for them in agriculture in order to harness their potential. South Asia is blessed with demographic dividends which need to be harnessed. Most of the countries are under-developed and have large youth population as a result of

which there is an alarming situation for policy makers and research leaders to find appropriate solutions. He stated that a Harvard study indicates that “sick organization is the one where exists knowing and doing gaps”. There are piles of reports and recommendations showing that more research is needed for finding appropriate solutions to feed the ever increasing population but the implementation of these recommendations is grossly inadequate. He stressed that to feed the increasing population, there is an urgent need to produce more with lesser inputs of natural resources including land and water. Hence, there is a need to maintain a critical balance between population, food production and natural resources. This balance would need more of science, technology and innovations with more integration of biotechnology, nanotechnology, robotics and information communication technology (ICT), etc. Use of knowledge based tools, interplay or combination of technologies can do wonders and create new opportunities. He shared that agriculture in Pakistan is the most promising sector and blessed with better natural resources, climate and commodity based economy. There is great need for re-orienting research for clusters and developing right architect for each cluster of agriculture to create a value chain through public-private partnership e.g. dates, mango, jumbo prawn, fishries, cut flowers, roses, etc. Young farmers need the knowledge of world market and standards and must be empowered with latest ICT tools. Therefore, there is an urgent need for initiating rural entrepreneurship programs. The future of agriculture should be result oriented and, therefore, today’s agriculture needs agricultural research for result (AR4R). Also, current agriculture needs to be linked with industries such as textile, and food (chocolate, coffee, etc.). He stressed that future of South Asia depends on the quality and passion of youth and there is a need to provide rigorous training to the youth through internship programs at graduation level. The globalization of knowledge and innovations is urgently needed for future progress and prosperity of farmers in South Asia.

Dr. Muhammad Azeem Khan, Director General, National Agricultural Research Centre (NARC), proposed a vote of thanks and highlighted the importance of such NARS-CGIAR interactions to be organized periodically for strengthening partnerships, and for harnessing the benefits of joint research and development efforts in the region.

The inaugural session was followed by a tour to different laboratories and field experiments of different institutes under the National Agriculture Research Centre (NARC) and the participants got immensely benefited.

Interactive Session

Dr. Raj Paroda, Executive Secretary, APAARI outlined the importance, genesis and necessity of this brainstorming session. Highlighting the role of successful NARS-CGIAR collaborations for the glorious past of South Asia’s agriculture, he stressed on the emerging challenges and the changes required in NARS and CGIAR for effectively addressing these challenges. He mentioned that policies, institutions and human resource, and the global partnership were the three important cradles of Green Revolution in South Asia. He also outlined the way forward for the youth in agriculture. The key message included reorienting research for development agenda which should include: i) small farmholder initiative, ii) women and youth in agriculture, and iii) poor producers to poor consumers’ approach. Youth as an asset should be empowered at all levels from ‘*plough to plate*’. There is a need to create on-farm and off-farm jobs to reduce economic shocks for youth in agriculture and make agriculture profession more attractive. The major emphasis should be laid on post-harvest technology and youth led rural entrepreneurship for linking farmers to markets. This holistic approach would need more investments in R&D. Moreover, this translational

research is critical for outscaling innovations. The future of agriculture lies in translating science into innovations that can be adapted and outscaled. The Global Conference on Agricultural Research for Development (GCARD) Foresight shows a way forward for outscaling innovations through partnership and capacity development. He stressed on the urgent need for Second Green Revolution through strengthened partnerships among the stakeholders by bridging the yield gaps, emphasis on innovations, resilience in agriculture, knowledge sharing, enhancing research and development (R&D) investments significantly and having enabling policies in place for inclusive market oriented development (IMOD).

Dr. Thomas Lumpkin, Director General, International Maize and Wheat Improvement Center (CIMMYT), highlighted the history of CIMMYT and evolution of Borlaug Institute of South Asia (BISA) as well as greater role of South Asian scientists in the CIMMYT's mission. He stated that BISA is aiming at the creation of state of art research facilities in collaboration with National Agricultural Research and Extension Systems (NARES) and emphasized more on the partnership in South Asia especially for free exchange of germplasm, sharing of knowledge between different stakeholders as well as capacity development of NARES. He emphasized on specific role of youth in agriculture and elaborated the post-doc program of BISA for creating '*Young Borlaug Pioneers*'. He further emphasized on more extended public-private partnerships for cutting-edge research to address the emerging agricultural challenges of variable farm topographies, climate change, low adaptive capacity of maize and wheat, poor access to water, large yield gaps and low resource use efficiency. BISA is an excellent opportunity to bring the public and private sector partners closer to work for a common goal of food and nutrition security and eradicating poverty in the region. He further mentioned that BISA will complement and strengthen the ongoing efforts of NARS and CIMMYT and will provide opportunity to other CGIAR centers to work on system mode research in the region.

Dr. William Payne, Leader CRP on Dryland System, International Center for Agricultural Research in Dry Areas (ICARDA) highlighted that CGIAR programs are changing and the CRPs now adopting a multi-institutional and multi-stakeholder participatory approach. He stressed on the need for change in the national research system and, therefore, partnership has to be on complementary basis. He also elaborated in detail about the new funding windows of CRPs and the links with donors and stressed on good governance and management of CRPs in order to have desired results.

Dr. David Spielman, Senior Research Fellow, International Food Policy Research Institute (IFPRI) highlighted that underinvestment in AR4D is the biggest challenge in South Asia. To mobilize new investments, there is a need to generate and furnish quality data to analyze the individual, national and regional needs. Recent studies by IFPRI have shown that there is an urgent need to lower food prices and increase purchasing power of consumers. In South Asia, India is the key player in AR4D investment @10 per cent increase per annum, whereas Sri Lanka has negative investments. In some of the South Asian countries, security situation is also one of the reasons for low investment. He also highlighted on AR4D spending in the last few years in South Asian countries and emphasized that India has reduced the human resource capital at a faster pace as compared to other countries of South Asia. He further mentioned that complex bureaucratic structures, non-availability of long-term research projects, less emphasis on multi-disciplinary approaches, poor prioritization, volatile public funding and fragmentation alongwith disciplinary lines, are the few constraints for lesser investment and generation of quality data in agriculture in South Asia. He also emphasized that NARES

need vital reforms and the CGIAR is already going through a reform process. Therefore, an intensified national and regional partnership for AR4D as well as with industry is extremely essential to make agriculture more remunerative and attractive for youth with a greater focus on developing agro-based entrepreneurs. This partnership should be multi-faceted and not donor-driven in view of donor interest being for short-term impact.

Response from Panelists

The opening session was followed by the response from a select group of panelists that included the Heads of NARS in South Asia and CGIAR Centers. The responses from the panelists are given below :

Dr. Mahmoud Solh, Director General, ICARDA, highlighted that the challenges in South Asia and globally are far more complex and difficult to be addressed by any single institution. The other important point mentioned by him was the need for research for impact. He stressed that partnerships for a collective action is extremely important to solve the complex problems. The NARS-CGIAR partnership has led to successful agricultural revolutions but in future these partnerships need to be more focused and strategic as some of the NARS have better expertise and are much advanced in some of the research areas than even CGIAR Centers and hence, there is an urgent need to explore how these learnings can be outscaled in similar ecogeographic regions. In this regard, institutions like APAARI have to play much wider and critical role. CGIAR and NARS have to translate research outputs from laboratory to the farmers' fields for which physical and mental resources need to be pooled through effective partnership for the success of the programs.

Dr. Iftikhar Ahmad, Chairman, PARC, mentioned that science cannot be pursued in isolation and it has to be built on the existing knowledge and learnings. There is a need to create a knowledge sharing mechanism for wider adoption of the innovations at farmer's field. This whole process would need advocacy which essentially comes through innovative and strategic partnerships and that's why regional fora like APAARI have to play a much bigger role in future. The Green Revolution could take place because of advocacy of science to the policy makers and change agents by the pioneers like Dr. N.E. Borlaug. There is a great need for innovations for which partnerships is essential which is a two-way process. He emphasized that agriculture in Pakistan had been in isolation for the past few years, but now it has rejuvenated. There is a need to enhance the capacity to utilize innovations and youth can play a vital role in this direction. He concluded by saying that science is about ideas and interactions based collective wisdom.

Dr. Khalilur Rahman, Member Director (ARES), Bangladesh Agricultural Research Council (BARC), Bangladesh highlighted the importance of farmer participatory approaches on solid scientific background and direct involvement of scientists. He also emphasized the need of innovations on post-harvest technology considering that the losses are very high. He further mentioned that viable technologies are needed for processing and value addition. Also, there is a great need to have a very strong component of training the human resource under the CRPs.

Dr. A.K. Srivastava, Director, National Dairy Research Institute (NDRI), Indian Council of Agricultural Research (ICAR), New Delhi, while recognizing the past glory of Green Revolution, emphasized on the need for a paradigm shift in R4D focus through innovative partnerships and trans-boundary learning on common problems and solutions with strong scientific evidences. He emphasized that feeding the everincreasing population has been a challenge which further

exacerbated due to changing climatic scenario, depleting natural resources, malnutrition and other linked challenges of food security. Therefore, to meet the future food needs in terms of quantity and quality, the livestock will play a vital role and, therefore, there is a need for integration of agriculture with livestock through 'Farming Systems Approach'. Citing the ICAR's example, he shared that some NARS have the human resource strength and capability and CGIAR has the best expertise and, therefore, a strong and effective partnership between NARS and CGIAR can bring faster and fruitful results to attain the goal of sustainable farming systems. He further highlighted the strengths and weaknesses of the Indian agriculture and linked it with the CRPs work in India and emphasized the need for CGIAR Centers to have more consultations with NARS while developing the CRPs.

Dr. Stefano Grando, Research Program Director, Dryland Cereals, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), highlighted that staple food grains are the first priority of the poor because their very lives depend on these foodstuffs. Yet, most dryland smallholder farm households do not grow enough grain to feed themselves for the entire year and the shortfalls become even worse when drought hits, resulting in severe hunger and malnutrition, especially affecting women and children. She also highlighted that ICRISAT is working closely with NARS for the past four decades and this partnership needs to be strengthened further.

Dr. D.B. Gurung, Executive Director, Nepal Agricultural Research Council (NARC), Nepal exhorted the role of CGIAR institutes in Nepal, and emphasized on the need for regular interactions between CGIAR and NARS. He stressed that capacity development is the major need in Nepal agriculture, and CGIAR has to come forward to train the agricultural researchers and other stakeholders. On technology aspect, he mentioned that Nepal is sandwiched between two major ecologies (India and China) and the technologies developed in these countries will be immensely helpful for agriculture in Nepal. He also emphasized that basic research to develop technologies should be done by CGIAR Centers for use by the NARS. Greater focus needs to be given on developing partnership for regional collaboration, capacity building and advanced research.

Dr. P. Wimal Kumara, Director General, Council for Agricultural Research Policy (CARP) highlighted that in Sri Lanka, CARP had been working closely with the CGIAR institutes in the past but the collaboration had not been at a much extended level except that with International Water Management Institute (IWMI). The future challenges demand further strengthening of this partnership.

Discussion Session

The panel discussion was followed by a detailed deliberation on the views of panel members. Dr. Abdul Halim, Professor and Head, Department of Agriculture, Papua New Guinea (PNG) shared that presently, there is no NARS in existence in the South Pacific and only educational institutes undertake the work on developing agricultural technologies. Fiji is the only country having a Regional Center of CGIAR in the Pacific region. Agriculture growth in the Pacific region is rather poor and, therefore, youth needs the required knowledge through sharing mechanism for enhancing the pace of agricultural research for development. He stressed on the need to develop partnership with the universities and colleges involving the students and young professionals. Dr. Partha Dasgupta, Principal Advisor, Syngenta Foundation emphasized on retaining the youth in agriculture and also appreciated their capabilities. He strongly argued that youth should be a member in the important decision making committees of the NARS and CGIAR. Ms. Nasrin Aktar, Senior Program Specialist (Horticulture), South Asian Association for

Regional Cooperation (SARC) Center, Bangladesh highlighted on the need for organizing such NARS-CGIAR interactive sessions more frequently and offered that SARC can facilitate organizing such meetings in future. Dr. S.N. Puri, Vice Chancellor, Central Agricultural University (CAU), Imphal, India called for greater emphasis on research and development in the neglected areas like mountainous and hilly regions to harvest the maximum benefits from agriculture through better regional partnerships. He felt the need for a separate international center to address the needs of such difficult areas. He further stressed on the need for the private sector to invest more in advanced research and quality education and not just focusing on the product. Farmer participation through ICTs especially in the remote areas is going to be a vital component for agriculture growth in the current scenario and hence, needs to be paid greater attention.

Dr. T. Sugino from Japan International Research Center for Agricultural Sciences (JIRCAS), Japan, emphasized that there is a lack of collaboration between NARS and CGIAR which must be strengthened. Dr. Asif Ali, Director, University of Faisalabad, Pakistan highlighted the need for a cross country internship for the young agricultural students and researchers and stressed that donors should also come forward for such an initiative. Dr M.L. Jat, Senior Cropping Systems Agronomist, CIMMYT, highlighted the role of “*Innovative Farmer Participatory Learning Platforms*” led by young farmers in Haryana, India. He emphasized that these platforms are the excellent examples of outscaling innovation and empowering and engaging youth in agriculture. However, capacity development is central for such learning platforms and necessitates strong partnerships, much beyond just public and private sector organizations, for fulfilling a vision of 5Ps (prioritize, plan, participate and promote for profits). Ms. Esther Penunia from Asian Farmers Association (AFA) emphasized on the importance of institutions like Rice-Wheat Consortium (RWC) to strengthen regional partnership and collaboration. She stressed that this partnership needs a holistic approach including the farmers and there is a need to move from an ‘integrated farming system’ to ‘integrated family farming system’.

Dr. Mustaq Gill, Director, South Asia Conservation Agriculture Network (SACAN), Pakistan suggested for creating a Network of Farmers at regional level for cross boarder learning to speed up the transfer of technology, material and information for enhancing agricultural production. Dr. David Spielman, Senior Research Fellow, IFPRI in his response highlighted that IFPRI will conduct a regional survey on investment needs in different Southeast Asian countries. This survey will be executed through multi-stakeholder interactions, and will help to find out the right incentives, timings and common needs of stakeholders in the region. He further stressed that the future warrants to think bigger than technology and on how to interact with different stakeholders and convert this into innovations.

Concluding Remarks

Dr. Thomas Lumpkin, Director General, CIMMYT emphasized that the CGIAR institutes should prioritize their focused areas in the South Asian region, and in the current scenario, there is a strong need for perceptible change so that the voice of both the clientele (NARS) and donors is heard more than the CG system, should have better way of communication, invest more in the system and take the ownership. CGIAR also needs to provide more opportunities to women and youth. He also emphasized on the need for greater investment by private sector.

Dr. Raj Paroda, Executive Secretary, APAARI, stressed on the need for renewed attention of donors and CGIAR Centers on South Asia as it is the home of most poor and malnourished population especially children and women. CG Centres must pay greater attention to address

the emerging problems in agriculture in the South Asia region. He further emphasized that the establishment of BISA is an excellent opportunity in the region, which should be a multi-center initiative through inter-center partnership. The future of agriculture demands outscaling of innovations to the end-users, and this would essentially need confidence building among policy makers through science based evidences. Natural resource management (NRM) research outcomes and innovations have to play critical role and need to be outscaled with a focus for impact on smallholder farmers. However, this needs to be built on strong foundation of effective partnership at national, regional and global level through multi-stakeholder approach with special emphasis on youth and women. APAARI has played and will continue to play the catalytic role at regional level for sustainability of agriculture through better partnerships. Now, there is a need to bring BISA at the center stage to play much bigger role and this would need wider deliberations for building resources at regional level. The common agenda of CGIAR Centers can be addressed through BISA in a participatory mode. CGIAR Centers need to create wider awareness of CRPs among NARS to attract donor attention and funding in the South Asia region and this would need a holistic approach. Also, there is a need to catalyze the policy makers for greater investment for developing technologies especially for the resource poor farmers in the South Asia region.

Key Recommendations

- The partnership between NARS and CGIAR Centers was an important cradle of 'Green Revolution' in the region. A similar partnership is needed now to address successfully the current and emerging challenges before agriculture. Since many of the challenges are highly complex, the new partnerships should be highly complementary and strategic in nature to harness their comparative advantages.
- The CGIAR change management process leading to strategic research framework (SRF) and the CRPs are designed mainly to build multi-stakeholder partnerships for focused, targeted and output oriented research. At the same time, it is felt that defined priorities of these CRPs are invariably not in line with those of the National Agricultural Research Systems. Hence, in order to overcome the existing mismatch, wherever exists, it would be desirable to have more detailed consultations with stakeholders in the region.
- The germplasm flow from CGIAR to NARS in the form of prebreeding materials is expected to be the core strength of CGIAR. Hence, the germplasm flow should further be accelerated through multilateral/bilateral exchanges with NARS under the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) using the standard material transfer agreement (SMTA).
- There is an urgent need to increase investments (almost triple) for AR4D in South Asia, including the required funding for BISA. Unfortunately, policy support in this regard is lacking. Also, the donor community perception has to change to recognize the need for South Asia, being the home for the maximum poor and malnourished people, even more than Sub-Saharan Africa (SSA).
- The region now needs Second Green Revolution, especially for much needed nutrition security. Hence, the focus of AR4D needs to be reoriented towards bridging the yield gaps, attaining diversified agriculture, outscaling innovations, ensuring resilience, sharing of knowledge and achieving inclusive market oriented development (IMOD).
- The establishment of Borlaug Institute for South Asia (BISA) provides an excellent opportunity in the region to carry out cutting edge research through multi-institutional,

inter-disciplinary and multi-stakeholder partnerships. BISA could also focus on strategic research and promote cutting edge technologies that could reduce the cost on inputs on one hand and increase farm income on the other.

- NARS-CGIAR partnership needs a non-linear approach wherein they jointly could play effective and more complementary role, including support both in cash and kind. CGIAR Centers should mainly target on new innovations, whereas NARS should assume major responsibility for their faster adoption on farmers' fields for needed impact through the process of refinement and validation.
- In view of scarce resources available with most of the countries in the region, it is extremely important that CG Centers work more closely with NARS to address specifically the priority areas while avoiding any duplication of work. Cross cutting areas like knowledge sharing and capacity development should once again receive priority attention of CG Centers.
- In order to make NARS-CGIAR partnership more effective and result oriented, similar interactive sessions/workshops need to be organized more frequently in future. In this regard, regional organizations like APAARI could play facilitator's role.
- In South Asian countries, existing administrative structure, lack of prioritization of research and development agenda, fragmentation along disciplinary lines, poor coordination, and volatile public funding are some real impediments, which need to be overcome soon through proper policy advocacy and public awareness mechanisms.
- There is an urgent need to build strong public-private partnership (PPP) through dynamic initiatives and required enabling environment. In this regard, greater trust, mutual understanding and defined roles/responsibilities right from the beginning will be needed. Clarity on access and benefit sharing will help in building mutual trust. Such initiatives may lead to higher investments in AR4D by the private sector.
- Partnership with agricultural universities in the region also needs to be built further to cater to the requirements of both research and education of youth (including women) in specialized areas. There is also an urgent need for training the farmers, especially the youth, to adopt innovative approaches in different sectors of agriculture, beside crop production such as horticulture, livestock, fishery, agroforestry, etc.
- It is extremely important to involve both women and youth in agriculture. Their empowerment and participation in AR4D related activities, especially for secondary/speciality agriculture, extension services, processing/value addition and marketing will go a long way in ensuring future growth of agriculture in the region. It will also address the emerging concerns of ageing population in agriculture. In this regard, talents of young professionals be recognized and fully exploited. Also, they need to be encouraged to become entrepreneurs. In this context, it is expected that current CRPs, in partnership with NARS, will address this concern.
- CG Centers and the NARS will have to focus on better ways of communication. Hence, new mechanisms to share/transfer knowledge/technology more efficiently will have to be evolved for outscaling innovations at scale.
- CGIAR could also play an important role in policy advocacy for greater investments, and strengthening agricultural R&D institutions for diversified agriculture in the region. Partnership between CG Centers and NARS will go a long way in addressing the Millennium Development Goals (MDGs) in South Asia, and hence, needs to be strengthened.

Technical Program

22 October, 2013

09:00 - 10:00 Registration		
10:00 - 10:10	Welcome and Introductory Remarks	<i>Iftikhar Ahmad, PARC</i>
10:10 - 10:20	Welcome Address	<i>Simon Hearn, Chairman, APAARI</i>
10:20 - 10:40	Chief Guest's Address	<i>Ahsan Iqbal, Federal Minister for Planning, Development and Reforms, Govt. of Pakistan</i>
10:40 - 10:45	Vote of Thanks	<i>Muhammad Azeem Khan, NARC</i>
10:45 - 11:15	<i>Tea/Coffee Break</i>	
11:15 - 13:00	Field Visit to NARC Institutes	
13:00 - 14:00	<i>Lunch</i>	
14:00 - 18:00 NARS-CGIAR Interactive Session for Strengthening Partnership in South Asia		
Co-Chairs : <i>Amir Mohmad, Former Chairman, PARC</i> <i>Thomas Lumpkin, CIMMYT</i>		
Facilitator : <i>David Spielman, IFPRI</i>		
14:00 - 14:15	Strengthening NARS-CGIAR Partnerships	<i>Raj Paroda, APAARI</i>
14:15 - 14:30	BISA : Emerging Opportunities	<i>Thomas Lumpkin, CIMMYT</i>
14:30 - 14:45	CRPs : Partnership Options	<i>William Payne, ICARDA</i>
14:45 - 15:00	AR4D in South Asia : Priorities and Policies	<i>David Spielman, IFPRI</i>
15:00 - 15:30	Response from Panelists (10 minutes each)	<i>Mahmoud Solh, ICARDA</i> <i>Iftikhar Ahmad, PARC</i> <i>S.M. Khalilur Rahman, BARC</i>
15:30 - 15:45	General Discussion	
15:45 - 16:15	<i>Tea/Coffee Break</i>	
16:15 - 16.55	Response from Panelists (10 minutes each)	<i>A.K. Srivastava, ICAR</i> <i>Stefanio Grando, ICRISAT</i> <i>D.B. Gurung, NARC</i> <i>P. Wimal Kumara, CARP</i>

16:55 – 17:30 General Discussion

17:30 - 18:00 Concluding Remarks

Co-Chairs : *Raj Paroda*, APAARI

Thomas Lumpkin, CIMMYT

19:30 *Dinner hosted by PARC at Best
Western Hotel*

List of Participants

AUSTRALIA

Sandra Heany Mustafa

Project Manager
University of Canberra
ACT 2601
Australia
sandra.heany_mustafa@canberra.edu.au

Simon Hearn

Chairman APAARI & Principal Adviser
Australian Centre for International Agricultural
Research
GPO Box 1571
Canberra ACT 2601
Australia
simon.hearn@aci.gov.au

BANGLADESH

Muhammad Abdul Mazid, Ph.D

Associate Director Agriculture (BRAC International)
BRAC Centre
75 Mohakhali, Dhaka – 1212
Bangladesh
ma.mazid@brac.net

Nasrin Akter

Senior Program Specialist (Horticulture)
SAARC Agriculture Centre
Farmgate, Dhaka
Bangladesh
nakter67@yahoo.com

SM Khalilur Rahman

Member Director (AERS)
Bangladesh Agricultural Research Council (BARC)
Farmgate - Dhaka
Bangladesh
mkhalilur@hotmail.com

BHUTAN

Tshewang Tashi

Focal Officer for School Agriculture Programme,
Department of Livestock,
Government of Kingdom of Bhutan
Thimpu
Bhutan
tshewangtashi@gmail.com

FIJI

Ropate Ligairi

Permanent Secretary for Agriculture
Department of Agriculture
Ministry of Primary Industries
Robinson Complex
Raiwaqa
Fiji
ropate.ligairi@agriculture.gov.fj

INDIA

A.K. Srivastava

Vice President
Indian Agricultural Universities Association (IAUA)
IG - 2, CGIAR Block,
NASC Complex, DPS Marg
New Delhi - 110012
India
dir.ndri@gmail.com

Bhag Mal

Consultant
Asia-Pacific Association of Agricultural Research
Institutions (APAARI)
C/o TAAS, Avenue II, IARI
Pusa Campus
New Delhi 110012
India
b.mal@apaari.org

Etienne Duveiller

Director Research
International Maize and Wheat Improvement
Center (CIMMYT)
National Agricultural Science Center (NASC)
DPS Marg, Pusa Campus
New Delhi - 110012
India
e.duveiller@cgiar.org

Gutam Sridhar

Senior Scientist (Plant Physiology)
Country Representative for India YPAR, CISH
ICAR, Rehmankhera, Kakori Post
Lucknow - 226101
Uttar Pradesh
India
gutam2000@gmail.com

M.L. Jat

International Maize and Wheat Improvement
Center (CIMMYT)
National Agricultural Science Center (NASC)
DPS Marg, Pusa Campus
New Delhi - 110012
India
m.jat@cgiar.org

Partha R Dasgupta

Principal Advisor
Syngenta India Ltd.
Amarparagigam, Sr No. 110/11/3
Banner Road, Banner
Near Sadanand Hotel
Pune - 411045
Maharashtra
India
partha.dasgupta@syngenta.com

Raj Paroda

Executive Secretary
Asia-Pacific Association of Agricultural Research
Institutions
C/o TAAS, Avenue II, IARI
Pusa Campus
New Delhi 110012
India
raj.paroda@gmail.com

S.N. Puri

Vice Chancellor
Central Agricultural University
Imphal
Arunachal Pradesh
India
snpuri04@yahoo.co.in; snpuri@rediffmail.com

Stefania Grando

Research Program Director
Research Program – Dryland Cereals
ICRISAT
Patancheru
Andhra Pradesh
India
s.grando@cgiar.org

Vikas Chaudhary

Society for Conservation of Natural Resources
and Empowering Rural Youth
Taraori, Karnal
Haryana
India
me_vikaschaudhary@rediffmail.com

Yashpal Singh Saharawat

Senior Scientist
Indian Agricultural Research Institute
C/o Indian Council of Agricultural Research
Pusa Campus
New Delhi - 110012
India
ysshaharawat@gmail.com

INDONESIA

Katinka Weinberger

Director, Centre for Alleviation of Poverty
through Sustainable Agriculture (CAPSA)
Jalan Merdeka 145, Bogor 16111
Indonesia
k.weinberger@uncapsa.org

ITALY

Courtney Paisley

Coordinator
YPARD – Young Professionals' Platform for
Agricultural Research for Development
C/o Food and Agriculture Organization of the
United Nations, Viale delle Terme di Caracalla
00153 Rome
Italy
courtney.paisley@fao.org

LEBANON

Mahmoud Solh

Director General
International Center for Agricultural Research in
the Dry Areas
P.O. Box 114/5055
Beirut
Lebanon
m.solh@cgiar.org

MALAYSIA

Azizan Abd. Rashid

Director
Malaysian Agricultural Research and Development
Institute (MARDI)
P.O. Box No. 12301
Kuala Lumpur 50774
Malaysia
azizan1955@gmail.com

NEPAL

Arun Kumar Joshi

International Maize and Wheat Improvement
Center (CIMMYT)
Kathmandu
Nepal
a.k.joshi@cgiar.org

Dil Bahadur Gurung

Executive Director
Nepal Agricultural Research Council (NARC)
Singha durbar Plaza, P.O. Box 5459
Kathmandu
Nepal
ednarc@ntc.net.np

Ram Babu Paneru

Senior Scientist
Nepal Agricultural Research Council (NARC)
Kathmandu
Nepal
rbpaneru@yahoo.com

PAKISTAN

Abdul Majid

Country Manager
ICARDA Country Office, NARC Premises
National Agricultural Research Centre (NARC)
Park Road
Islamabad
Pakistan
a.majid@cgiar.org

Abullah Soomro

Assistant Director (IC)
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
abdullah.soomro@ymail.com

Ahmad Bakhsh Mahar

Director General
Planning & Development Division
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
maharbr97@gmail.com

Akbar Shah Mohmand

CSO/Sr. Director, CSI
National Agricultural Research Centre (NARC)
Islamabad
Pakistan
asmohmand@hotmail.com,
akbarshahmohamand@yahoo.com

Allauddin Ahmad

Section Officer (IC-I)
M/o National Food Security & Research
B-Block, Pak Sectt.
Islamabad
Pakistan
sectionofficeric@gmail.com

Altaf Sher

Director (IC)
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
icparc@yahoo.com

Amanullah

Deputy Director/Incharge MIS
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
aman.swati@gmail.com

Amir Muhammed

Rector
FAST-National University of Computer and
Emerging Sciences
G-9
Islamabad
Pakistan
amir.muhammed@nu.edu.pk

Faheem Ahmad Ashraf

Assistant Private Secretary
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
sfa2_parac@yahoo.com, sfashraf70@gmail.com

Fateh Ullah

Director (Small Ruminants)
ASI, National Agricultural Research Centre (NARC)
Islamabad
Pakistan
drmfatahullah@yahoo.com
srrp.asi@gmail.com

Ghulam Muhammad Ali

Project Director, NIGAB
National Agricultural Research Centre (NARC)
Park Road
Islamabad
Pakistan
drgmali@yahoo.ca

Ghulam Rasool

Director PSDP
Planning & Development Division
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
psdp204@hotmail.com

Hassan Sajjad

Assistant Technical Officer/Multimedia
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
hasan_avc@yahoo.com

Iftikhar Ahmad

Chairman
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
iftahmad@gmail.com

Imtiaz Ahmad

Assistant Private Secretary
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
imtiazahmedcmp@gmail.com

Javed Iqbal

Director (Technical)
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
linkjaved@gmail.com

Khalid Naeem

DDG, ASI
National Agricultural Research Centre (NARC)
Islamabad
Pakistan
naeem22@comsats.net.pk

Khurram Jamshaid

Deputy Director (IC)
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
Khurram_jam@yahoo.com

M. Kamal Sheikh

PSO/Director
Planning & Development Division
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
dmkamal@yahoo.com

Malik Zahoor Ahmad

Director General
National Animal & Plant Health Inspection
Services (NAPHIS)
M/o National Food Security & Research
B-Block, Pak Sectt.
Islamabad
Pakistan
naphis.pk@live.com

Muhammad Afzal

Project Director
FAO Livestock Project
C/o FAO Office
National Agricultural Research Centre (NARC)
Islamabad
Pakistan
muhammadimam.afzal@fao.org

Muhammad Aslam Gill

Commissioner (Food Security-I)
M/o National Food Security & Research
B-Block, Pak Sectt.
Islamabad
Pakistan
aslamgill@hotmail.com

Muhammad Azeem Khan

Director General
National Agricultural Research Centre (NARC)
Islamabad
Pakistan
azparc@yahoo.com

Muhammad Fiaz Joyia

Director/TSO to DG
National Agricultural Research Centre (NARC)
Islamabad
Pakistan
mfjoyia@yahoo.com

Muhammad Imtiaz

Country Director
CIMMYT Country Office
NARC Premises
Park Road, Chak Shahzad
Islamabad
Pakistan
m.imtiaz@cgiar.org

Muhammad Islam

Director
Rangeland Research Institute
National Agricultural Research Centre (NARC)
Park Road, Chak Shahzad
Islamabad
Pakistan
azrcquetta@yahoo.com

Muhammad Riaz Khan

Member (Coordination & Monitoring)
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
razkhn@yahoo.com

Muhammad Shahid Masood

Member (Plant Sciences)
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
shahid.masood617@gmail.com

Muhammad Shakeel

Assistant Director (IC)
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
tomshakeel@yahoo.com

Muhammad Younas

Programmer
MIS, National Agricultural Research Centre (NARC)
Islamabad
Pakistan
m_as2@yahoo.com

Mukhtar Ahmad

Assistant Professor
Department of Agronomy
PMAS University of Arid Agriculture
Rawalpindi
Pakistan
ahmadmukhtar@uair.edu.pk

Munir Ahmad

CS-II/Secretary
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
secyparc@gmail.com

Munnawar Raza Kazmi

ASLP Coordinator
Australian High Commission
Diplomatic Enclave
Islamabad
Pakistan
munawar.kazmi@dfat.gov.au

Nadeem Amjad

Member (Natural Resources)
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
parc.nadeem@gmail.com

Noor Muhammad Khan

Director CG & MOU
Planning & Development Division
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
noorm2202@yahoo.com

R.H. Usmani

Commissioner (Livestock)
M/o National Food Security & Research
B-Block, Pak Sectt.
Islamabad
Pakistan
usmani.r.h@gmail.com

Rao Iftikhar Ahmad

Additional Secretary
M/o National Food Security & Research
B-Block, Pak Sectt.
Islamabad
Pakistan
secretarynfsr@yahoo.com

Saleem Sadiq

Joint Secretary
M/o National Food Security & Research
B-Block, Pak Sectt.
Islamabad
Pakistan
saleemsadiq20@yahoo.com

Sardar Ghulam Mustafa

Director (PR&P)
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
dirprparc@gmail.com

Seerat Asghar Jaura

Secretary
M/o National Food Security & Research
B-Block, Pak Sectt.
Islamabad
Pakistan
secretarynfsr@yahoo.com

Shabbir Ahmad

Assistant Protocol Officer
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
gsmirza@gmail.com

Shahid Rafique

Member (Animal Sciences)
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
asd_parc@yahoo.com

Shakeel Ahmad

Commissioner (Food Security-II)
M/o National Food Security & Research
B-Block, Pak Sectt.
Islamabad
Pakistan
kshakeel93@yahoo.com

Sher Muhammad

CSO/Director
National Institute of Organic Agriculture
National Agricultural Research Centre (NARC)
Park Road
Islamabad
Pakistan
shermuhammadnioa@yahoo.com

Syed Ghazanfar Abbas

Chief Scientific Officer/TSO to Chairman
Pakistan Agricultural Research Council (PARC)
Islamabad
Pakistan
guzniabbas@gmail.com

Syed Muhammad Nasir Ali

Director General
Federal Seed Certification and Registration
Department
Mauve Area, G-9
Islamabad
Pakistan
dg.fscrd@yahoo.com

Tariq Hassan

Registrar, PIASA
National Agricultural Research Centre (NARC)
Islamabad
Pakistan
tharal@hotmail.com

PAPUA NEW GUINEA

Abdul Halim

Professor and Head
Department of Agriculture/Dean of Post Graduate
Studies
PNG University of Technology
Lae 411, Morobe Province
Papua New Guinea
halimunitech@gmail.com

PEOPLES REPUBLIC OF CHINA

Jieying Bi

International Division
Agricultural Information Institute (AII)
Chinese Academy of Agricultural Sciences (CAAS)
12 Zhongguancun S St, Haidian
Beijing
Peoples Republic of China
bijieying@caas.cn

PHILIPPINES

Ma Estrella A. Penunia (Esther)

Secretary General
Asian Farmers' Association for Sustainable Rural
Development (AFA)
Manila
Philippines
estherpenunia@yahoo.com

SRI LANKA

D.D.S.S. Dissanayake

Research Officer
Sri Lanka Council for Agricultural Research
Policy (CARP), 114/9
Wijerama Mawatha, Colombo 07
Sri Lanka
sameeraslcarp@gmail.com

Prabath Wimal Kumara

Executive Director
Sri Lanka Council for Agricultural Research
Policy (CARP), 114/9
Wijerama Mawatha, Colombo 07
Sri Lanka
prabathwk@gmail.com; carp@slcarp.lk

THAILAND

Chanerin Maneechansook

Asia-Pacific Association of Agricultural Research
Institutions (APAARI)
4th Floor, FAO Annex Building, 202/1 Larn
Laung Road
Klong Mahanak Sub-District
Pomprab Sattrupai District
Bangkok 10100
Thailand
chanerin@apaari.org

Sutat Suravanit

Agricultural Science Expert
Office of Agricultural and Development Region
4Ubon Ratchathani
Thailand
inter@doa.in.th

Tomohide Sugino

Representative
Southeast Asia Liaison Office, JIRCAS
50 Phaholyothin Rd., Ladyao
Chatuchak Bangkok 10900
Thailand
tosugino@jircas.affrc.go.jp

Urairat Rujirek

Administrative Associate
Asia-Pacific Association of Agricultural Research
Institutions (APAARI)
4th Floor, FAO Annex Building, 202/1 Larn
Laung Road
Klong Mahanak Sub-District
Pomprab Sattrupai District
Bangkok 10100
Thailand
urairat@apaari.org

MEXICO

Thomas A. Lumpkin

Director General
International Maize and Wheat Improvement
Center (CIMMYT)
Km. 45, Carretera
Texcoco, Edo. De Mexico
Mexico
t.lumpkin@cgiar.org

UZBEKISTAN

Asad Jannat ogly Musayev

Chairman
Central Asia and the Caucasus Association of
Agricultural Research Institutions (CACAARI)
P.O. Box 4564
Tashkent 100000
Uzbekistan
yagubguliyev@yahoo.com

Yagub Guliyev

Central Asia and the Caucasus Association of
Agricultural Research Institutions (CACAARI)
P.O. Box 4564
Tashkent 100000
Uzbekistan
yagubguliyev@yahoo.com

VIETNAM

Nguyen Hong Son

Director General
Institute for Agricultural Environment
Hanoi
Vietnam
nguyenhongson@1966@gmail.com

Inaugural Address

Prof. Ahsan Iqbal

Federal Minister for Planning, Development and Reforms
Government of Pakistan, Islamabad

Dr. Simon Hearn, Chairman APAARI; Dr. Raj Paroda, Executive Secretary, APAARI, Dr. Thomas Lumpkin, Director General, CIMMYT, Dr. Mahmoud Solh, Director General, ICARDA, Dr. Iftikhar Ahmad, Chairman PARC; distinguished invitees, young and professional participants; representatives from international institutes, private sector, NGOs, fellow scientists, ladies and gentlemen.

Assalaam-u-Alaikum!

It is a tribute and privilege for me to offer my humble annotations in the Inaugural Session of NARS-CGIAR Interactive Session being organized in Islamabad alongwith two other events, namely, 'Regional Workshop on Youth and Agriculture: Challenges and Opportunities' and the 'APAARI Executive Committee Meeting'. I have been continuously informed about these events. In fact, I was initially asked to inaugurate the Regional Workshop on "Youth and Agriculture: Challenges and Opportunities" on 23 October, 2013 for which I was very optimistic to inaugurate but due to some other important national engagements, I requested the organizers to shift my responsibility from 23 to 22 October and thus, I am very pleased to be amongst you today for inaugurating this Interactive Session.

According to the United Nations Children's Fund (UNICEF), Pakistan has one of the world's largest youth population, with 35 per cent of the population aged 15 years or below. Having total population of approx. 184.5 million on 11 October, 2013, it is the land of youth with median age of around 22 years and 21.7 per cent segment between the age group of 15-24 years, while the youth up to age of 35 years, comprises around 60 per cent of the total population. It means that out of every five persons, three are youth and more than 70 per cent of them reside in rural areas; but work primarily in the agricultural sector. These young men and women are critical to the development of agriculture to ensure food security.

Recent initiatives like 'Second Global Conference on Agricultural Research for Development (GCARD 2)' held in Uruguay and 'Foresight and Future Pathways of Agricultural Research through Youth' held in India have indicated that youth's futuristic role is much needed as well as vital in the total spectrum of agricultural activities. This role has been envisaged based on the statistics as large youth segment in world's population and especially in Asia and the Pacific to the tune of 750 million young people (48% of the world's youth). It is still more realistic when we talk in terms of rural areas.

Important facts in the perspective of Pakistan such as 2.5 per cent average growth rate in the last five years, 21.4 per cent contribution of agriculture sector to gross domestic product (GDP),

45 per cent employment of the country's labour force in agriculture, 66.7 per cent livelihood provision to rural population, and above all 97.9 per cent share of agro-based products in export earnings in comparison with others at 2.1 per cent validate the needed role of youth in agriculture not only to sustain present level but also to improve it at accelerated pace. To respond to national call of the day, the present government accords the highest importance to youth. His Excellency, the Prime Minister, Mian Muhammad Nawaz Sharif announced during his address to the Nation on 21 September, 2013 to launch six welfare schemes having initial allocation of twenty billion rupees with an aim to enable the youth of the country to stand on their feet besides helping to strengthen the economy. Further, we believe that food production and sustainable agriculture policies must be fostered and implemented by giving special emphasis to youth-led agricultural development. By availing this opportunity, I sincerely invite the international experts to give the vibrant suggestions for effective implementation of schemes announced in Pakistan.

It is imperative to note and I share with you some of the most crucial challenges facing youth in Pakistan's agriculture. Because of their impact to decrease gains drastically, these challenges make our profit-sensitive youth reluctant to adopt farming as their main business and youth is inclined to go to cities or abroad for handsome earnings by ignoring and setting back the agriculture in rural areas. These challenges are:

- i. From the perception point of view, the agricultural sector is regarded as a poor man's job and something you do to survive, and not as a career. Consequently, many young people are simply not interested in working in the field of agriculture.
- ii. Inefficient value chains and long chain of middlemen (brokers 'locally called *ahrties*', transporters, contractors, commission agents, etc.) are the problems faced by farmers. Farmers have no option for free profit oriented sale of agricultural products starting from the farm gates. Especially, the youth is affected, who own very little land or no land at all.
- iii. Most of our young farmers do not have access to purchase pure agricultural inputs and timely information on matters related to agriculture. Adulteration further aggravates this problem. Be it market price information or information concerning inputs like seeds, agrichemicals; almost all smallholder farmers have trouble in getting the right information at the right time to take required measures properly that may significantly impact the yields.
- iv. Most of the rural areas are devoid of electricity, communication lines and fiber optics making it very difficult to access the internet, which is today's nexus point for information. This leaves them at the heart of the middlemen who extort the young farmers viciously.
- v. Climate change has a major effect on farms and farmers contributing largely to the productivity decline we face today. Rainfed agriculture cannot work anymore; it has to be brain-fed agriculture.
- vi. Dearth of experts, skilled technicians and infrastructure are the main constraints to have good quality seeds, particularly hybrid seeds that bring good guaranteed returns to the farmers. Efforts at present are far behind the curve because the seed market is filled with imported seed which is more expensive than the locally developed seed.

All these factors are discouraging to our youth to adopt farming as profitable business. Therefore, we need agripreneurs to venture in research and development and continuously develop local solutions for the farmer.

It is my strong conviction that young professionals must think in terms of being trans-disciplinarians and simultaneously the scientists, innovators, entrepreneurs, and dealers in handling complex problems. I also want to put forth a challenge before the participants with a quote from John Amatt: "Face new challenges, seize new opportunities, test your resources against the unknown and in the process, and discover your own unique potential."

As a whole, urban as well as rural youth provides the base for the future farmers, policy makers, leaders, researchers and drivers of social and economic development. There are always exciting and key opportunities for the young agricultural professionals in the offing, i.e., embracing new areas of research and specialization, becoming entrepreneurial, solving the complex problems and understanding the new given environments along with their needs. Allied opportunities will also be there to devise the new skill sets because no one will share these skills and hence will have to be developed. These opportunities need to be explored for agriculture in the near future.

I was told that Dr. Raj Paroda thought to organize the Regional Workshop on Youth and Agriculture alongwith NARS-CGIAR Interactive Session. As a result, I can see many Heads of NARS, international experts from CGIAR Institutes and other agricultural related institutes, representatives from NGOs, private sector, and universities, attending this very important Session. This workshop will surely help in identifying possible areas of collaboration. The Interactive Session will also be able to discuss a mechanism for greater involvement of CGIAR Centers with our NARS for national agricultural research for development initiatives, and building stronger partnerships. It will also help in enhanced regional and sub-regional initiatives through mutual cooperation.

I assure you that the Federal Ministry for Planning, Development and Reforms shall extend all possible support for implementing any recommendation that shall help achieving the objectives of this Interactive Session. Please do not hesitate to seek any help from my Ministry and also from any other Government department which will be extended to achieve the desired results in strengthening partnership to move forward the agenda of agricultural research for development in South Asia.

At the end, I am thankful to the organizers for holding such esteemed forum. I really appreciate that most of you have traveled very long distances to participate in the three important events organized by APAARI in Islamabad and I wish the workshop a great success.

Important APAARI Publications

Expert Consultations/Meetings/Training Programs

- National Workshop on Outscaling Farm Innovation : Proceedings & Recommendations (2014)
- International Conference on Innovative Approaches for Agricultural Knowledge Management: Global Extension Experiences: Proceedings (2013)
- Training Workshop on Open Access Publishing Using Open Journal Systems: Proceedings (2013)
- Foresight and Future Pathways of Agricultural Research Through Youth: Proceedings and Recommendations (2013)
- Expert Consultation on Managing Trans-boundary Diseases of Agricultural Importance in the Asia-Pacific: Proceedings and Recommendations (2013)
- Stakeholders' Dialogue on Biosafety Regulations in the Asia-Pacific Region Proceedings and Recommendations (2013)
- Regional Consultation on Agricultural Research for Development : Proceeding and Recommendations (2013)
- Regional Consultation on Collective Actions for Opening Access to Agricultural Information and Knowledge in the Asia-Pacific Region: Proceedings (2012)
- Prioritization of Demand-driven Agricultural Research for Development in South-Asia (2012)
- Regional Consultation on Improving Wheat Productivity in Asia: Proceedings and Recommendations (2012)
- Workshop on Climate-Smart Agriculture in Asia: Research and Development Priorities: Proceedings and Recommendations (2012)
- First Global Conference on Women in Agriculture (GCWA): Proceedings (2012)
- Regional Workshop on Implementation of Suwon Agrobiodiversity Framework: Proceedings (2012)
- Regional Dialogue on Conservation Agriculture in South Asia: Proceedings and Recommendations (2012)
- Expert Consultation on Agricultural Biotechnology, Biosafety and Biosecurity: Proceedings and Recommendations (2012)
- Workshop on Moving Beyond Strategy to Improve Information and Knowledge Management for Agricultural Development in the Pacific Islands Countries and Territories: Proceedings (2012)
- Stakeholders' Interface on GM Food Crops : Proceedings and Recommendations (2011)
- Expert Consultation Meeting on Postharvest and Value Addition of Horticultural Produce – Strengthening Technologies for Linking Farmers to Market : Proceedings and Recommendations (2011)
- International Symposium on Sustainable Agricultural Development and Use of Agrobiodiversity in the Asia-Pacific Region (2010)
- APAARI-ADB Asia-Pacific Consultation on Agricultural Research for Development (AR4D) in Asia and the Pacific-The Way Ahead (2009)

- Expert Consultation on Biopesticides and Biofertilizers for Sustainable Agriculture (2009)
- Symposium on Global Climate Change : Imperatives for Agricultural Research in Asia-Pacific (2008)
- Expert Consultation on Agricultural Biotechnology for Promoting Food Security in Developing Countries (2008)
- Workshop on Development and Management of ARD Information Resources (2008)
- Asia-Pacific Regional Workshop on Agricultural Research for Development (2008) (for establishment of NGO Consortium-NAARAP)
- Expert Consultation to Review Progress of Agricultural Research Networks and Consortia in Asia-Pacific (2007)
- ICT/ICM Sensitization and Awareness Building Workshop for NARS Leaders and Senior Managers (2007)

Success Stories

- Wax Apple Industry in Taiwan : A Success Story (2014)
- Agricultural Information and Knowledge for All : Success Stories on ICT/ICM in AR4D in Asia and the Pacific Region (2013)
- Linking Farmers to Market: A Success Story of Lettuce Export from Chinese Taipei (2012), Min-Chi Hsu *et al.*
- Biofuel Growers Market Network (2012), K. Narayan Gowda
- Success Stories on ICT/ICM in AR4D in Asia and the Pacific Region, Malcolm Hazelman and S. Attaluri
- Short Duration Mungbean: A New Success in South Asia (2010), M.L. Chadha
- Taro Improvement and Development in Papua New Guinea (2009), Abner Yalu *et al.*
- Cotton-Wheat Production Systems in South Asia: A Success Story (2008), C.D. Mayee *et al.*
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- Biosafety Regulation of Asia-Pacific Countries (2008)
- Micropropagation for Quality Seed Production in Sugarcane in Asia and the Pacific (2008)
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Other Publications

- Benchmarking Agricultural Research Indicators Across Asia-Pacific : ASTI Regional Synthesis Report
- Training Workshop on Open Access Publishing Using Open Journal Systems
- APAARI on CD
- Priorities for Agricultural Research for Development in South-Asia
- Improving Wheat Productivity in Asia
- Fifteen Years of APAARI - A Retrospective
- APAARI Vision - 2025
- APAARI Newsletter (half yearly)

Copies of all the publications are available at: www.apaari.org



Asia-Pacific Association of Agricultural Research Institutions

Asia-Pacific Association of Agricultural Research Institutions (APAARI) was established in 1990 at the initiative of Food and Agriculture Organization of the United Nations and most of the National Agricultural Research Systems (NARS) of the Asia-Pacific region. Its mission is to promote the development of National Agricultural Research Systems in Asia-Pacific region through facilitation of inter-regional, inter-institutional and international partnerships.

APAARI's vision is that Agricultural Research for Development (ARD) in the Asia-Pacific region is effectively promoted and facilitated through novel partnerships among NARS and other related organizations so that it contributes to sustainable improvements in the productivity of agricultural systems and to the quality of the natural resource base that underpins agriculture, thereby enhancing food and nutrition security, economic and social well being of communities and the integrity of the environment and services it provides.

The overall objectives of APAARI are to foster the development of agricultural research in the Asia-Pacific region so as to:

- Promote the exchange of scientific and technical information
- Encourage collaborative research
- Promote human resource development and capacity building
- Build up organizational and management capabilities of member institutions
- Strengthen cross-linkages and networking among diverse stakeholders

APAARI's strategic thrusts are:

- Building research partnerships
- Regional research networking
- Policy advocacy for ARD
- Information dissemination
- Human resource development
- Technology transfer

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The Organizers



Asia-Pacific Association of Agricultural Research Institutions

Asia-Pacific Association of Agricultural Research Institutions (APAARI) is a regional association that aims to promote the development of NARS in the Asia-Pacific region through inter-regional and inter-institutional cooperation. The overall objectives of the Association are to foster development of agricultural research in the Asia-Pacific region so as to promote exchange of scientific and technical information, encourage collaborative research, promote human resource development, build up organizational and management capabilities of member institutions and strengthen cross-linkages and networking among diverse stakeholders. To meet these needs, the Association: i) convenes General Assembly once in two years, holds regular Executive meetings yearly and organizes consultations, workshops, trainings, etc. ii) collects, collates and disseminates research findings, iii) maintains links with other fora in the region and outside through meetings/participation and information exchange, and iv) promotes need based collaboration in research projects among member institutions, analyzing priorities and focusing on regional agricultural development. For details, please visit: <http://www.apaari.org/>



Pakistan Agricultural Research Council

Pakistan Agricultural Research Council (PARC) is an autonomous organization under the Ministry of National Food Security and Research, Government of Pakistan. It was formerly known as Food and Agriculture Committee of Pakistan (FACP), which was established in 1951 and renamed in 1964 as Agricultural Research Council (ARC). The ARC was reorganized as Pakistan Agricultural Research Council (PARC) in 1978. The Pakistan Agricultural Research Council Ordinance was promulgated in 1981 and the Council was established on 29 December, 1981 with its headquarters at Islamabad. The Council is the apex agricultural research organization at the national level with main objective to strengthen Pakistan's agricultural research system, comprising the federal and provincial components. PARC conducts research of national importance that is generally basic and long-term in nature. The Council hosts a large pool of qualified multi-disciplinary manpower and extensive multi-dimensional infrastructure located all over the country and especially in the fragile and marginal ecosystems. PARC has research establishments spread all over the country in different ecologies. As custodians of the national agricultural research system with long-standing links to the international agricultural research community, PARC provides the bridge to the frontiers of science and its translation into implementable, replicable, and scalable solutions. For details, please visit: www.parc.gov.pk





