

## **NARC-ACIAR Partnership: Past, Present and Ways Ahead**

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**Submitted by:**

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### **Brief Profile of NARC**

Nepal Agricultural Research Council (NARC) is an apex agricultural research organization established in 1991 as an autonomous governmental organization to conduct agricultural research to uplift the economic level of the people. The specific objectives of the NARC are to conduct quality studies and researches on different aspects of agriculture, identify the existing problems in agriculture and find out the solutions and assist government in formulation of agricultural policies and strategies. The specific functions of NARC include conducting quality agricultural researches required for national agricultural policies, prioritizing studies and researches to be conducted, providing research and consultancy services to the clients and coordinating, monitoring and evaluating the agricultural research activities in Nepal. Financial grants received from the Government of Nepal constitutes around 75% of total financial resources of NARC. Grants received from national and international donor agencies and governments and the funds obtained from research and consultancy services also constitute a significant portion of the financial resources.

Agriculture sector contributes 35 percent to Gross Domestic Production (GDP) employing 65 percent of total population with a share of 13 percent to total foreign trade of Nepal. Increasing population at a rate of 1.4 percent demands more food and fiber for which agricultural research and development endeavors need to be prioritized higher. Keeping this in view, agriculture sector has been prioritized from the onset of periodic plans. Nepal Agricultural Research Council (NARC) is dedicated for securing food and enhancing livelihood of Nepalese people thorough generation and dissemination of sustainable agricultural technologies. NARC has been following the guiding principles and priorities set in the concurrent governmental periodic plans, agricultural plans, policies and strategies while planning and conducting agricultural researches. NARC is also well responsive to the emerging challenges put forth by globalized market competition and climate change.

NARC has a countrywide networks of 61 research stations representing distinct ecological regions. The research sectors broadly include crops, horticulture, fisheries

and livestock. Despite a lot of efforts, agriculture research and extension system of Nepal is often blamed for not delivering up to the expectations.

### Major Challenges for Agricultural R & D in Nepal

**Geographical and Cultural Diversity:** The demand for technology is more because of cultural and geographical diversity so a technology has limited applicability and the returns over investment remains low.

**Poor Infrastructure Development:** irrigation, energy supply, agri-inputs production, mechanization, marketing, research facilities

**Poor Agri-Policies:** no land use policies for tackling increasing fragmentation non-agricultural use of land. Inappropriate mechanization, subsidy and input supply policy.

**Increasing Labor Shortage, Feminization of Agriculture:** Feminization of Nepalese agriculture has been a much talked issue these days. Overwhelming youth outmigration is assumed to be the major reason for accelerating feminization of agriculture. Though we lack strong empirical evidences, the consequences of feminization are thought to be decreasing acreage under agriculture and diminishing factor productivity.

**Climate Change:** extreme drought, uncertainty in the onset of monsoon, erratic rainfall, biotic stresses triggered by abiotic stresses.

**Poor Agriculture Research and Extension Delivery:** Research and Extension systems and institutions are often blamed for not delivering up to the expectations because of acute shortage of skilled researchers, inadequate research facilities, deficit funds, poor research-extension coordination, insufficient ecological coverage etc. The scenario is further worsening in recent years by an increasing trend of retirement of experienced scientists.

### NARC-ACIAR Past and Current Partnership

ACIAR has supported collaborative research in Nepal since the early 1990s, including projects on small ruminants, wheat and legumes, and Australian Aid has supported community forestry research and development activities. Other donors have supported rice and maize improvement. Many districts of Nepal still experience food deficits, and there is now scope for improved integration of soil, water, crop, livestock and tree components of the farm system, in addition to work aiming to

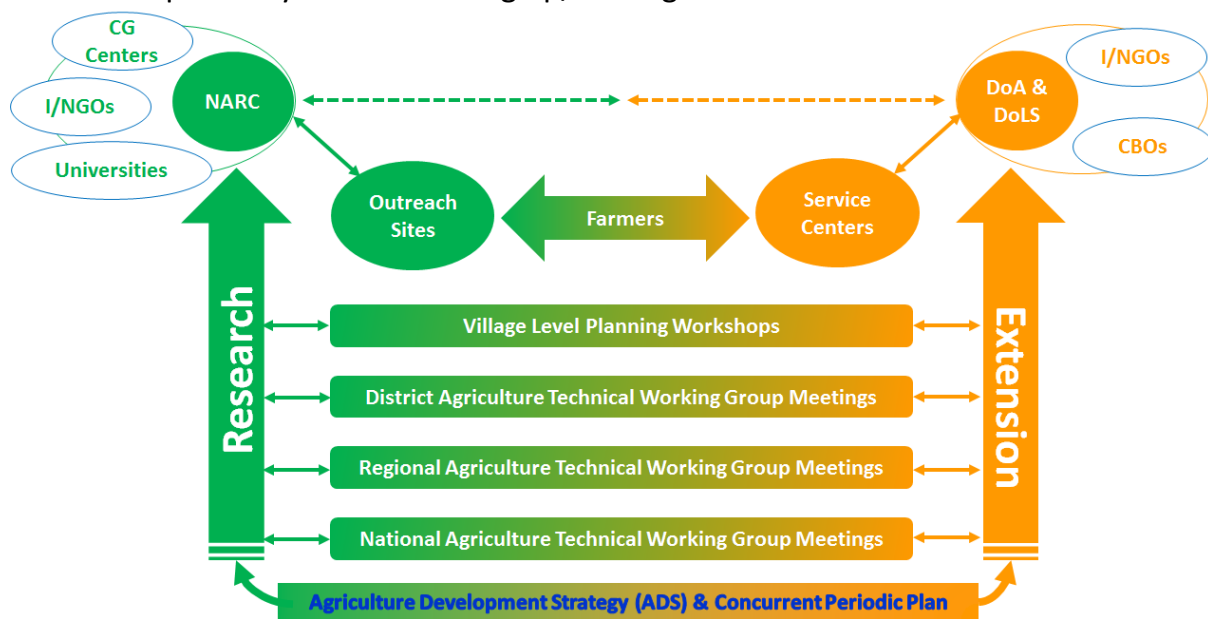
increase the productivity of the individual components through adoption of available technologies.

Parallel to what is happening in the global arena many approaches like Farming System Research (FSR) of 1970s and Participatory Research and Development of 1990s have also been tested in Nepal especially by NGOs to give an alternative to the linear research-extension model of 1950s. However, all these efforts ended up only forming a few “Islands of Success” around testing sites instead of expected widespread impact. Recently, the Agricultural Innovation Systems perspective has been embraced with a view to addressing some of the shortcomings of the previous approaches. The Agricultural Innovation Systems perspective has a major point of departure from the earlier approaches which is the recognition that it gives to institutional challenges and multi-stakeholder engagement. It is useful because it provides science, technology and innovation organizations with an opportunity to develop appropriate innovations and to efficiently scale them up and/or out across the world. The perspective advocates for users and suppliers of knowledge and other services to interact from the outset to ensure innovation takes place within the value chains. The aim is to combine existing knowledge types (such as local, scientific and global) to generate technological, institutional and organizational innovations.

In a view to piloting the Innovation Systems Perspective in the Eastern Gangetic Plains (EGP), ACIAR funded a four years Sustainable and Resilient Farming Systems Intensification (SRFSI) project, targeting rice-wheat based cropping systems of eight districts of Bangladesh, India and Nepal. Ten project nodes of Sunsari and Dhanusha districts in the eastern terai region of Nepal are the pilot sites for demonstrating various project approaches including Innovation Platforms (InPs) in Nepal. Two research stations namely Regional Agricultural Research Station (RARS) Tarahara and National Rice Research Program (NRRP) Hardinath under Nepal Agricultural Research Council (NARC) are two key implementing institutions for Sunsari and Dhanusha districts respectively. Agronomy Division, Socioeconomic and Agricultural Policy Research Division (SARPOD) and Agri-engineering Division under NARC are taking the lead in their respective disciplines and providing backstopping support to the district team. District Agricultural Development Offices (DADOs) of respective districts under Department of Agriculture (DoA) are the key agri-extension and scaling-up partners of SRFSI. Apart from NARC and DoA institutions, International Development Enterprise (iDE) Nepal and International Water Management Institute (IWMI) are also serving the business development, value chain development, market linkage, gender and social inclusion, and water management research and development objectives of the project.

The overall aim of the project is to ‘reduce poverty in the EGP by improving the productivity, profitability and sustainability of smallholder agriculture’ answering specifically two major research questions: would farm management practices based on the principles of conservation agriculture (CA) and the efficient use of water resources provide a foundation for increasing smallholder crop productivity and resilience; and would institutional innovations that strengthen adaptive capacity and link farmers to markets and support services enable both women and men farmers to continue to innovate in the face of climate and economic change?

As envisaged by the project, creation of Innovation Platforms (InPs) at different levels is one of the major SRFSI methodologies. Demonstration of effective InPs in SRFSI nodes is one of the major responsibilities of socioeconomic team of the project expecting same approach could be mainstreamed by national agricultural research and development system for scaling up/ scaling out later on.



**Figure 1: Existing agricultural innovation model of Nepal**

Oftentimes people around say that innovation system perspective is not any different and new thing to what is being practiced conventionally. They argue that even though we don’t name it InP the multi-tiered agriculture technical working group concept of existing agricultural innovation model of Nepal also draws on innovation system perspective. The self-help group approach of agriculture extension being applied by various governmental and non-governmental organizations is also claimed to be a form of innovation system approach. These sort of misinterpretations should also be undone for giving InPs approach a jumpstart in Nepal.



## Future areas of NARC-ACIAR collaborations

Acute shortage of skilled researchers and inadequate research facilities are the major reasons for poor innovation delivery by Nepal Agricultural Research Council (NARC). The scenario is further worsening in recent years by an increasing trend of retirement of experienced scientists. In this context capacity building of the young researchers is of utmost importance that NARC seeks out of the collaborations with international institutions and benefactors like ACIAR. We have been benefiting from the collaborations with ACIAR since long in many ways. NARC is very much optimistic that ongoing SRFSI project will be successful in imparting innovation system perspectives in Nepal and explore a range of new avenues for more deepened collaborations in future.

In this context capacity building of the young researchers is of utmost importance that NARC seeks out of the collaborations with international institutions and benefactors like ACIAR. Specially, NARC seeks ACIAR's support in following areas of capacity building:

- Nutrition Sensitive Agriculture
- Approaches of Effective Partnerships
- Gender Responsive Agricultural Research and Development
- Impact Studies
- Development of Agricultural Risk Management Strategies in the Face of Climate and Market Risk and Ambiguity
- Good Agricultural Practices (GAPS)
- Value Chain Development/ Inclusive Business Model Development
- Conservation Agriculture
- Innovation Systems Perspective/ Institutional Innovations
- Environmental/ Crop/ Economic Modelling
- Practicing Theory of Change/ Impact Pathways