PAPER 1

Extension Services

February 2015

The context

The aim of this project being to develop options for enabling policies for the benefit of smallholders in dairy, citrus and mango in Punjab and Sindh, several policy related constraints are being considered, including extension services for the smallholders. In the light of the information summarised in this note, a number of policy related issues have emerged and are presented below for discussion with and guidance from the Project Coordination Committee.

Most developing countries face the challenge of making agricultural extension services more accessible to all farmers, large and small, men and women, rich and poor. Agriculture in the future will be more reliant on modern technologies, innovations and intensification – instead of increasing cultivated area or using more natural resources. Agricultural technologies and innovations are continuously changing, and the farmers need to be resilient to adapt their farming practices and techniques to enhance productivity. In this context, effective extension services are a crucial institutional input for equipping farmers with agricultural education and training for making them more innovative and productive. By the same token, ineffective extension services can end up being wasteful without achieving their objectives. As far as small holders in horticulture and dairy are concerned, extension services in Pakistan leave a lot to be desired. .

Policy issues

- How should the current system of extension services be improved?
- How should extension services be made more demand driven?
- How should the targeting of extension services on smallholders be improved?
- How should linkages between extension services, agriculture universities and research institutes be improved and institutionalised?
- How should the morale and motivation of the extension services workforce be raised?
- How should the performance and the image of private sector extension services be improved?
- How should the intrinsic organisational weaknesses of the public sector extension services be improved?

Current organisation of extension services

Extension services in Pakistan are the responsibility of provincial governments. In 2001, the devolution of power plan brought further changes in the organisation of agricultural extension services and the district administrations were given a greater role in the planning and execution of development projects. Each province has its own model of administration of extension services.

Pakistan maintains a well-organized work force for both crop and livestock sector. There are about 8842 personals engaged in extension activities in the crop sector in the whole of Pakistan. The workforce for livestock is around 10,171 (Afzal 2011).

In Punjab, the main objectives of the Office of the Director General (Agri. Extension and AR) are:

- transmission of modern agricultural technologies and techniques to the growers;
- ascertaining the problems of the growers relating to crop production and conveying these to the attention of the Research Wing of the provincial government;
- demonstrating new varieties and techniques by laying out demonstrations plots;
- multiplying foundation seed from the nucleus seed for further distribution to progressive growers through the Punjab Seed Corporation;
- propagation of pedigree nursery plants of fruits at government nurseries for distribution to growers;
- laying out orchards, model farms and budding of fruits;
- assisting crop reporting services in conducting surveys, collection of data, and helping farmers in taking remedial measures against pest attacks; and
- organising fruit and vegetable shows, exhibitions and *melas*.

In Sindh, the Agricultural Extension wing of the provincial Department of Agriculture, Supply and Price is responsible for carrying out extension-related activities. The main functions of agricultural extension services of Sindh include, '... to advise/educate growers /farmers in modern crop production practices and technologies, so as to increase farm production and improve yield per unit of area. To achieve this goal, the Agriculture Extension Workers are performing their duties to disseminate the timely seasonal information amongst the growers for cultural practices; proper seed requirements, timely sowing, balanced and efficient use of fertilizers, efficient/judicious use of irrigation water, pesticide use, effective crop management, harvesting, threshing and storage/marketing etc.'.

For the livestock and dairy subsector, the Livestock and Dairy Development Department (in Punjab) has two Directors-General – one for Research and one for Extension. The Directorate General (Extension) has several Directorates. After the devolution of power in

2001, the district level offices of the Department of Agriculture got more autonomy. The District Coordination Officer (DCO) is the top level bureaucrat who reports to the elected representative (District Nazim).

The set-up for livestock and dairy is again slightly different in Sindh, where a Director works at the division level and Deputy Director at the district level. The Livestock, Dairy and Fisheries Department has more or less the same structure as the Department of Agriculture at district level, supported by the District Livestock Officers (DLOs) and Veterinary Officers.

Mixed impact of devolution

Having analysed the impact of the decentralised extension system in Punjab, Sipra et al (2006) found that devolution had increased interaction between officials and farmers and improved the monitoring of services. At the same time, many weaknesses of decentralisation were also pointed out, including the undue influence of local politicians in administrative matters, such as in the transfer and promotion of the extension staff, and unclear or incomplete rules and regulations following devolution. Another study by Khan (2006) also concluded that 'though the district is made a focal point for planning and implementation, the inter-district linkages have weakened. It may also be fair to say that the district has now become isolated, as it does not have any linkage with other districts even within the same province'.

Performance of public extension services

Public extension services in Pakistan have been generally not successful in dealing with the site-specific needs of the farmers. While the overwhelming majority of Pakistan's farmers are smallholders, extension services in the public sector tend to target large- and medium-scale farmers. Consequently, small farmers mostly depend on private companies for agricultural information, which are inclined to promote their own products and business.

Burton et al (2012) argue that agricultural extension services in Pakistan are outdated and that lack of coordination between agricultural universities and research institutions and extension is a major weakness of the current system. Formal linkages within the provincial wings of the Department of Agriculture do exist officially, but are not effective. Within the Department of Agriculture, coordination between the Extension and Adaptive Research wing, and the Directorate of Agriculture Information and district governments has been found to be ineffective (Siraj 2011).

Private sector involvement

The involvement of the private sector in agricultural development is a relatively new development that has occurred in the wake of the recommendation of the National Commission on Agriculture in 1988. In light of the recommendations of the Commission, agricultural input supply agencies – predominantly international pesticide and fertilizer enterprises – began to take part in the extension work as well as in selling agricultural inputs. Now, almost all major private national and multinational companies engaged with agriculture- and livestock-related businesses are also rendering advisory services to their clients in respect of plant protection (by pesticide companies), seed variety introduction and adoption (by seed companies), crop/plant nutrition (by fertiliser companies), and dairy (by national and multinational dairy companies).

Inadequate focus on horticultural crops

Horticultural crops (fruits, vegetables, flowers, Horticultural crops (fruits, vegetables, flowers, medicinal plants) are now gaining more and more attention from agricultural extension services around the globe because of the higher profit margins. However, the main focus of extension services in Pakistan remains on traditional crops and there is insufficient attention on the needs of horticultural farmers.

Weaknesses of the private sector model

Although large private companies have well developed systems of in-service training of their field staff, the skills and competencies of private sector extension staff have not impressed farmers, who often perceive the extension field staff of private companies as incompetent (Ali et al. 2011). Besides, the private sector extension services by themselves are not likely to provide a solution to Pakistan's agricultural problems, particularly in reaching out to the smallholders and the resource-poor farmers (Davidson, 2002; Abbas 2005) and therefore a public extension service must be strengthened to play the leading role in collaboration with other stakeholders.

Human resource issues

Several researchers have labelled the extension system of Pakistan as top-down, supply-driven, male-farmer focused, and large-farmer oriented (Burton 2012; Khan 2006). Limited numbers of field extension staff are expected to support vast numbers of farmers across large geographical areas. Each Agriculture Officer (AO) who is at the front line of extension services at the Markaz level has to look after on average 30-40 villages. In some districts, there are more than 60 villages under the domain of an AO. Multifarious tasks – like election duties – are often given to the extension officials even when such tasks are irrelevant to their profession (Shahbaz and Ali 2011). Under these conditions, it is almost impossible for the AOs to visit every village during the busy cropping season when their professional services are most valued.

A career development path for extension workers is unattractive with very slow promotion, minimal benefits and lack of rewards (Burton 2012). Absence of an efficient monitoring and evaluation system at the lower tier of extension set-up is another intrinsic weakness hindering the effectiveness of the public extension system in Pakistan. To become more effective, Pakistan's extension services will need to grow beyond the narrow focus on technology transfer into a knowledge-based extension philosophy.

Field study (preliminary) findings

Among the Punjab dairy farmers surveyed, 76% said they had never used extension services at all. This situation is worrisome, because 99% of these farmers also have no formal training in dairy or livestock farming and they never access any government information on the media.

Among the citrus farmers surveyed, only 14% said they regularly used extension services, 26% used them infrequently and 60% never used extension services. Once again, most of them (91%) had no formal training about citrus farming or about any other income generating activities. Only 15% said that they accessed government information programs on citrus production and marketing.

India's reforms of its agricultural extension services

As in Pakistan, Indian agriculture and agricultural extension services are the responsibility of the state governments. However, the central government of India is also involved in providing an overarching perspective and strategic leadership in this field. The central government's initiative of setting up the Agricultural Technology Management Agency (ATMA) in 1998 as a pilot project was adopted nationwide in 2007, and provides a model for states to develop their own models, with or without private sector/NGO partnerships. Thus, India still has decentralised model of extension services, but it is a model that has benefited from central government's leadership and financial support. The following observation by IFPRI (2010, p. 29) in a recent review of India's extension services should be of interest to Pakistan's aim of reforming its agricultural extension services, 'if extension is to remain relevant in India, particularly for marginal and smallholder farmers in rain-fed regions, it needs to evolve to provide a diverse set of services that support agricultural livelihoods, offering relevant technologies that are integrated with appropriate services'.

Agricultural extension should also support and address relevant areas beyond the farm, such as storage, processing, market access and trade, agribusiness management and entrepreneurship, natural resource management, and issues related to women. Within the paradigm of innovation systems, extension agencies can act as innovation intermediaries or innovation brokers, working with many partners to strengthen linkages and provide support for innovations.

There must be innovations in extension delivery that embrace different methods and offer flexible adaptations to cater to the needs of users across states, regions, and communities. Extension must be able to respond to emerging issues in agriculture. Content needs to be part of an integrated knowledge system in which all actors in the food and agriculture value chain collaborate, contribute knowledge, and share the knowledge among the users.

Following CGIAR (2014), agricultural extension and advisory services (EAS) can be defined as systems and mechanisms for building the capacity of smallholders in the context of a rapidly changing agricultural information flows, technologies, processes, markets and consumer tastes. The need for these services is even greater for smallholders and women who face additional challenges in accessing and adapting to new flows of information that have the potential to raise their productivity and improve their livelihoods.

There is also evidence that while rates of return to agricultural R&D are high, strongest productivity growth has occurred in those countries that simultaneously invested heavily in R&D and extension services. In Pakistan, in the past, agricultural R&D has been focused on major crops, and livestock and horticulture have been relatively neglected.

Recognising the need to move away from supply-driven to demand-driven innovation, some countries have taken steps towards a more inclusive, interactive and participatory approach to both R&D and EAS. In an attempt to make its extension services more demand-driven, India is seeking to further deepen its model of decentralisation of extension services by involving village-level governance bodies (Panchayats) in the supervision and evaluation of extension service staff. This aspect of India's experience appears to be in contrast with Pakistan's experience, where decentralisation of extension services does not appear to have worked well.

Conclusion

In conclusion, there are many intrinsic weaknesses in the current system of extension services in Pakistan. Lack of adequate numbers of well-trained extension workers, poor incentives for higher performance, lack of specialized knowledge of needs of smallholders in livestock and dairy, and horticulture subsectors and on-job training, and absence of an effective M&E system are some of the main weaknesses. Lack of effective institutional linkages between different stakeholders (public, private, research, education and NGOs) is also a major factor hindering the effectiveness of extension services in Pakistan.

It is clear that an extension system that could promote sustainable agriculture and address the rural development issues is urgently needed. Such an extension system will have to move from the narrow focus on technology transfer to a knowledge-based extension philosophy.

For more information contact:
Professor Peter Sheehan
Victoria Institute of Strategic Economic Studies
Victoria University, Melbourne
Email: Peter.Sheehan@vu.edu.au