

Agriculture Services

Extension

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Indian agriculture is confronting serious issues such as a huge yield gap, a multitude of smallholders, imbalances with respect to input use and declining natural-resource productivity. Extension systems in India, which have an important role to play in addressing these concerns, are constrained by financial, infrastructural, and human resource limitations. There is an immediate need to increase investment in extension.

In news: Agriculture Extension Services

Placing it in syllabus: Agriculture

Dimensions

- Types of agriculture extension
- Four paradigms of agriculture extension
- Agriculture extension in India
- Problems and prospects

Content:

- Agricultural extension can be defined as the “delivery of information inputs to farmers to increase agricultural productivity” and also it is the application of scientific research and knowledge to agricultural practices through farmer education.
- According to The Committee for Doubling Farmers’ Income, “Agricultural Extension is an empowering system of sharing information, knowledge, technology, skills, risk & farm management practices, across agricultural sub-sectors, all along the agricultural value chain, to enable the farmers to realise higher net income from their enterprise on a sustainable basis”

- The field of 'extension' now encompasses a wider range of communication and learning activities organized for rural people by educators from different disciplines, including agriculture, agricultural marketing, health, and business studies.

Types of agriculture extension:

- **Technology transfer Services** – Transfer of advice, knowledge and information.
- **Advisory Services**– Advice to farmers in relation to specific problems faced by them.
- **Facilitation Services**–Support farmers to outline their own problems and develop their own solutions.

Extension services help to increase the agricultural productivity in following ways:

- By **replacing traditional farming methods** with modern and advantageous systems
- By **enabling pooling of resources** to achieve economy of scale
- **Changing attitude of farmers** towards new and productive farming approaches

Efficient utilisation of resources such as water, soil, pesticides, weedicides etc. It alerts the farmer on infestation of pest and diseases, cyclones, floods, hailstorms, and other natural calamities, which can damage entire agriculture.

Four paradigms of agriculture extension

Any particular extension system can be described in terms of both how communication takes place and why it takes place. They are:

Technology transfer (persuasive + paternalistic):

- This paradigm was prevalent in colonial times and reappeared in the 1970s and 1980s when the “Training and Visit” system was established across Asia.
- Technology transfer involves a top-down approach that delivers specific recommendations to farmers about the practices they should adopt.

Advisory work (persuasive + participatory):

- This paradigm can be seen today where government organizations or private consulting companies respond to farmers’ inquiries with technical prescriptions.
- It also takes the form of projects managed by donor agencies and NGOs that use participatory approaches to promote predetermined packages of technology.

Human resource development (educational + paternalistic):

- This paradigm dominated the earliest days of extension in Europe and North America, when universities gave training to rural people who were too poor to attend full-time courses.
- It continues today in the outreach activities of colleges around the world.
- Top-down teaching methods are employed, but students are expected to make their own decisions about how to use the knowledge they acquire.

Facilitation for empowerment (educational + participatory):

- This paradigm involves methods such as experiential learning and farmer-to-farmer exchanges.
- Knowledge is gained through interactive processes and the participants are encouraged to make their own decisions.
- The best known examples in Asia are projects that use Farmer Field Schools (FFS) or participatory technology development (PTD).

Agriculture Extension in India:

In India, Agricultural Extension is provided by:

- public sector bodies such as Ministries of Agriculture or Rural Development,
- the private sector (e.g., consulting firms, seed and other input companies, and buyers of produce)
- non-profit entities such as NGOs,
- commodity boards or farmer-based organizations.

1. Public Extension Services:

- Presently, the Public extension system predominantly handles the Extension Services and Public extension system in India.
- They include State Agriculture departments, Agriculture Universities, ICAR Organisations, KVKs, ATMA, and several other Central and State Government organisations.

Agriculture Technology Management Agency (ATMA)

- ATMA is a multi-agency platform that gives emphasis on procedural as well as institutional reforms, leading to effective extension delivery and it is a registered society responsible for technology dissemination at the district level.
- Its mandate is to have linkage with all the line departments, research organizations, non-governmental organizations and agencies associated with agricultural development in the district.
- Research and Extension units, Departments of Agriculture, Animal Husbandry, Horticulture and Fisheries etc. as the constituent members of ATMA.
- ATMA-KVK (Krishi Vigyan Kendras (KVKs)) linkage need to be strengthened further by creating functional inter-dependence as KVKs has very important role to play in frontline extension system.

National Mission on Agricultural Extension & Technology (NMAET)

Government has launched NAMET, which aims to ensure easy availability of seeds, pesticides and machinery at reasonable prices.

Provisions of NMAET include:

- Promotes sustainable farm agriculture and capacity building of farmers, extension functionaries, institutions and other stakeholders is provided through knowledge centres.
- Partnering with knowledge generators public – private, formal and informal to collect and disseminate the knowledge through all channels.
- Development of difficult areas and disadvantaged groups of farmers need high priority as low yield in these areas results in low macro yield.
- The power of ICT has been fully leveraged for linking the mission from national to field level through farmers portal, Kisan call centres etc.
- Employment generation for youths on and off farm services through various interventions and programs.
- Agrarian distress and conflicts, farmers' agitations, indebtedness and other concerns also looked through action research project and linkages with other institutions.

National Institute of Agricultural Extension Management (MANAGE):

- National Institute of Agricultural Extension Management (MANAGE) is an autonomous organisation under the Department of Agriculture, Cooperation and Farmers' Welfare .
- Its mandate is to assist state and central governments in strengthening agricultural extension management.

Extension Education Institutes (EEIs):

- Extension Education Institutes (EEIs) are mandated to effectively serve as a higher order knowledge loop to work on innovative and bold knowledge experiments.
- Thus, enhancing the Capacity building of the respective regions.

State Agriculture Management and Extension Training Institute (SAMETI):

- SAMETIs (State Agriculture Management and Extension Training Institute) are to function as extension arms of MANAGE in the States and they are part of the state level institutional mechanism of the ATMA component of Sub-Mission on Agricultural Extension (SAME).
- The Role and expectations from SAMETI are: Provide capacity building support, provide consultancy services (relating to project planning, appraisal, implementation, monitoring & evaluation, etc), Organize need-based training programmes.

1. Private Extension Services:

- Private Extension Services cover seeds, fertilizers, pesticides, machineries, credit, insurance, contract farming, export, advisory etc and many private players like progressive farmers, farmers' organisations (CIGs, FPOs), including cooperatives are direct stakeholders under this system.
- Other private sector involvement is through agri-entrepreneurs, input dealers, agri-business companies, NGOs, private banks, private media including TV, radio, print media, internet, donor agencies, consultancy firms etc.

Problems and Prospects:

Impractical Advice:

- The major problem reported by those who had access to extension services was the practical relevance of the advice.
- In India, Agricultural Extension has largely been focussing on production aspects, whereas farmers' requirement today is more market related.

Misinformation and Influence of private input dealers:

- Public extension provides advisory services, whereas input supply is controlled by private sector, this duality in delivery of services also creates confusion, despite right advice by public extension, farmers purchase wrong inputs influenced by aggressive sale by private input dealers.

Exclusion of extension support:

- To make the weather forecasting information system as a part of extension services more effective, the information needs to be combined and provided with other environmental information such as ground cover, soil type, soil organic matter, soil radiation, soil temperature, soil moisture and long-term drought conditions.
- Only 4.8 per cent of small landholders viewed the extension worker as a primary source of information, as compared to 9.8 per cent of medium farmers and 12.4 per cent of large farmers
- In remote and disadvantaged areas, farmers are rarely contacted by extension agents. Specialised and client-oriented extension approaches that focus on livelihoods rather than technology dissemination are needed for such areas

Lack of Qualified Extension Personnel:

- The departments of agriculture of State governments are still the main agricultural extension agencies in India

in terms of number of personnel and geographical coverage.

- India has a total of 0.12 million agricultural extension workers to serve a net cropped area of 141 million hectares and 158 million operational holdings.
- There is large variation in the intensity of personnel per acre and holding across States.
- The number of extension personnel in India is, however, only one-sixth of that in China.
- With this meagre number of extension personnel, serving widely dispersed farmers with diversified information needs is a really hard task.
- Moreover, most of the extension personnel are overburdened with multiple roles.

Future Prospects:

- The focus of agricultural extension has been on increasing yield with much less attention paid to ecosystem health and natural resource conservation.
- Given the public-good nature of many of the benefits of natural-resource management activities, the role of government is critical.
- While there are a variety of institutions in the field of extension, the ability of private extension to reach disadvantaged and marginalised areas, enterprises and sections of society is not yet established.
- While private and non-governmental institutions should be encouraged, public extension has to be strengthened to cater to the scale and diversity of agriculture in India.

Mould your thought: What are agriculture extension services? Discuss the potential and limitations of these services in India.

Approach to the answer:

- Introduction
- Define agriculture extension service and their types (Briefly)
- Discuss the extension service provided in India (public and private)
- Discuss the challenges faced
- Discuss the future prospects
- Conclusion