

## NEW DIMENSIONS OF AGRICULTURAL EXTENSION: FORGING PARTNERSHIP

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Indian Agriculture has made rapid strides in the last half century by augmenting the annual food grain production from 51 million tones in the early fifties to 212 million tones in 2001-2002 and steered the country to a status of self-sufficiency. It has been successful in keeping pace with the rising food demand of a growing population. Food grain production quadrupled in the last 50 years while population nearly tripled from 350 million to one billion during this period. Significantly, the extension system had played its role untiringly in transfer of production technologies from lab to land besides the agricultural scientists, farmers and marketing network. Though the production has increased dramatically, not so much bothered about remunerative prices. Small and marginal farmers are generally prone to sell their produce on “*as is where basis*” due to several constrains.

The National Policy on Agriculture seeks to actualize the vast untapped growth potential of Indian agriculture, strengthen rural infrastructure to support faster agricultural development, promote value addition, accelerate the growth of agro business, create employment in rural areas, secure a fair standard of living for the farmers and agricultural workers and their families, discourage migration to urban areas and face the challenges arising out of economic liberalization and globalization. Over the next two decades, it aims to attain a growth rate in excess of 4 per cent per annum in the agriculture sector, growth with equity based on efficient use of resources, demand-driven and sustainable technologically, environmentally and economically. In view of the policy statement, the major constraints identified in Indian Agriculture and the possible ways to address them is given in the table below :

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| Major Constraints                                                         | How to Address                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Low level of productivity                                                 | Application of frontier sciences like bio-technology, remote sensing technology, energy saving technologies, technology for well endowed regions, rainfed technologies, diversified agriculture technology.                                                                                                                                                                                                        |
| Degradation of natural resources                                          | Promote technically sound, economically viable, environmentally non-degrading and socially acceptable use of natural resources – land, water and genetic endowment (Watershed Development, soil conservation and rich fertility, drip irrigation, green house technology, in-situ moisture conservation, use of biotech, drought and pest resistant, high nutrition and yield, gene bank and bio-diversity parks). |
| Capital inadequacy                                                        | Increase capital formation, increase farmers own investment in agriculture, improve the terms of trade with manufacturing sector, easy availability of credit.                                                                                                                                                                                                                                                     |
| Lack of infrastructure support                                            | Infrastructure for development of agri-business industry, rural electrification, irrigation development, marketing infrastructure, rural roads, rural godowns.                                                                                                                                                                                                                                                     |
| Controls on movement, storage and sale of agriculture produce             | Market reforms – domestic and international                                                                                                                                                                                                                                                                                                                                                                        |
| Unrewarding profession due to unfavourable pricing and low value addition | Pre and Post-harvesting technologies, value addition technologies, agro-processing, price support system, corporate involvement, promotion of cooperative form of enterprise, agri-insurance.                                                                                                                                                                                                                      |

In order to implement the strategies to overcome these constraints, the National Agricultural Policy emphasized the need for broad basing and revitalizing the Agricultural Extension Services to make them innovative, decentralized, farmer driven and farmer accountable. The Public Extension by itself therefore, can no longer respond to the multifarious demands of diversifying agriculture and farming systems. With the wide range of demands for agricultural technology in the changing scenario, there is growing recognition that public extension by itself, cannot meet the specific needs of various regions and different classes of farmers.

There are the strengths and inadequacies in both, the public extension and private extension systems as enunciated below.

## **Public Extension**

### **Strengths**

- ◆ Strong network and wide reach
- ◆ Cover broad spectrum of agriculture

### **Inadequacies**

- ◆ Lack of coordination among Technology Transfer Systems
- ◆ Narrow Focus of the Agricultural Extension System
- ◆ Lack of Farmer Focus and Feedback
- ◆ Inadequate Technical Capacity within the Extension System
- ◆ Need for Intensifying Farmer Training
- ◆ Weak Research-Extension-Farmer-Market Linkages
- ◆ Poor Communications Capacity
- ◆ Inadequate operating Resources and Financial Sustainability

## **Private Extension**

### **Strengths**

- ◆ Better quality service for high value crops, mostly in irrigated geography on payment basis.

### **Inadequacies**

- ◆ Limited reach in terms of farmers and crops
- ◆ Inadequate network
- ◆ Poor farmers not covered (due to their business model)

Answer to these inadequacies may be found in the supplemental efforts with plurality of institutions like NGOs, FO, Para-technicians, Corporate House, Cooperatives, SHGs, Input Dealers etc.

Keeping this in view, MANAGE over the last 6 years have pilot tested the various experiments as given below to augment the inadequacies of Agricultural Extension Services.

1. ATMA model
2. Agri-Clinics and Agri-Business Centers Scheme (AC&ABCS)
3. Agricultural Extension Services by Input Dealers
4. Public-Private Partnership model

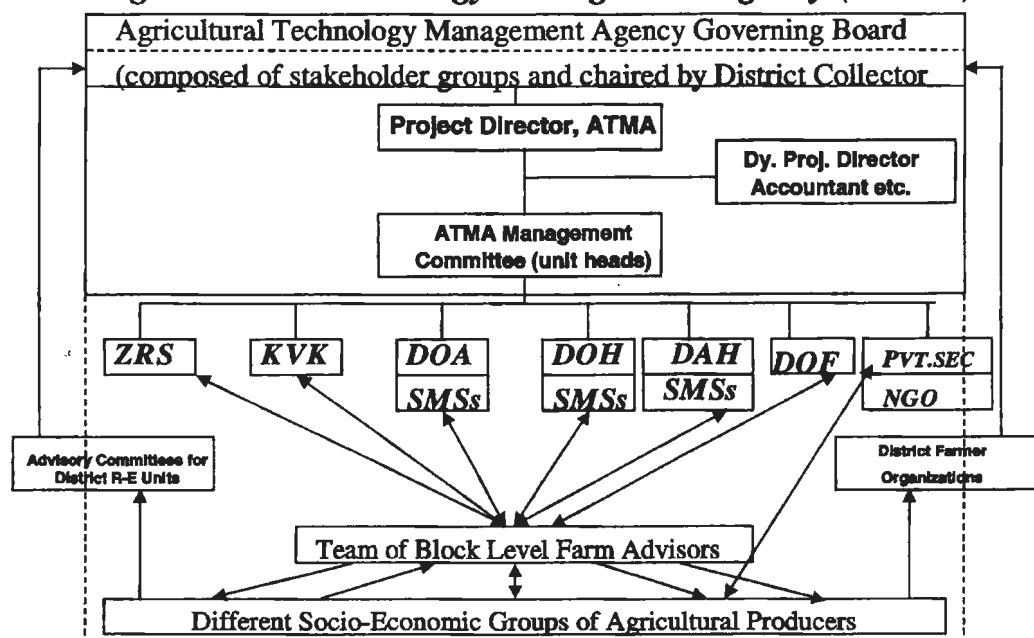
### **1. ATMA model**

Agricultural Technology Management Agency (ATMA) is a society of key stakeholders involved in agricultural activities for sustainable agricultural development in the district. It is a focal point for integrating Research, Extension and Marketing activities and decentralizing day-to-day management of the public Agricultural Technology System (ATS). It is a registered society responsible for technology dissemination at the district level. As a society, it would be able to receive and expend project funds, entering into contracts and agreements and maintaining revolving accounts that can be used to collect fees and thereby recovering operating cost.

### **Key functions**

- ◆ **Decentralized decision-making at the district level by way of developing Strategic Research and Extension Plan (SREP) and its implementation. SREP facilitates**
  - ❖ Long term visioning and strategic planning for agricultural development in the district
  - ❖ Involvement of all stakeholders in the development process
  - ❖ Identification of problems, opportunities, preferences and priorities of farming community
  - ❖ Operation of farmer centered, market oriented, research & extension management system

## **Organizational Structure of Agricultural Technology Management Agency (ATMA)**



### ♦ **Strategic Planning – Thrust**

- ❖ Diversification of farming systems
- ❖ Intensification of existing farming systems
- ❖ Improvement of productivity and income
- ❖ Sustainability of extension system and services
- ❖ Human Resource Development
- ❖ Convergence of on-going programmes

### ♦ **Steps in 'SREP'**

- ❖ Identification of agro-eco situations (AES)
- ❖ Identification of gaps (technological, institutional, economic, social etc.) by applying participatory approaches. This is done for major farming systems exist in the given Agro-eco situations

- ❖ Gap analysis (by AES team)
- ❖ Prioritization of the problems and issues
- ❖ Developing a strategy to address the problems and issues indigenously or exogenously
- ❖ Developing SREP document and its implementation

This exercise is taken up jointly by all the line departments, research scientists, NGOs and farmers. Normally this exercise takes 3-4 months time.

This model is successfully implemented in 7 States covering 4 districts in each State viz, Andhra Pradesh, Bihar, Himachal Pradesh, Jharkhand, Maharashtra, Orissa and Punjab. Further, this model is being extended to 252 districts covering all the States from April, 2004.

## **2. Agri-Clinics & Agri-Business Centers Scheme**

This Centrally sponsored Scheme has opened up the new vistas in Agricultural Extension Services. The space created by the Public Extension functionaries due to its systemic inadequacies as indicated earlier, is to be filled up by this new entrepreneur created under this scheme. The focus of the scheme is to supplement the Public Extension Services while providing specialized extension services to farmers. Also it provides accountable and customized extension services at the village level through technically trained agricultural graduates. These services are offered on payment basis and hence has to be of high quality, to sustain the enterprise and the entrepreneur.

As of now, 4,200 agricultural graduates have been trained in 66 institutions spread across the country for two months, of whom 850 have successfully established their enterprises in all the regions of the country. A sample list of projects established by these Agri-Business Entrepreneurs is given as under:

- ◆ Soil, Water Quality and input Testing Laboratory Services Centre
- ◆ Plant protection services centre
- ◆ Vermi - composting unit

- ◆ Horticulture Clinic and Business Centre
- ◆ Agroservice centre - farm machinery
- ◆ Agroservice centre - farm machinery and primary processing
- ◆ Private veterinary clinic
- ◆ Private veterinary clinic with retail outlet for feed & medicine
- ◆ Private veterinary clinic with small dairy unit
- ◆ Private Artificial Insemination Centre
- ◆ Eco-hatchery for carp seed production and extension services

### **3. Agricultural Extension Services by Input Dealers**

About 2.82 lakh Agri-Input Dealers are operating in rural areas covering almost all parts of the country. They have become one of the important sources of farm information to the farming community though not equipped with adequate knowledge. MANAGE has taken up an innovative step to draw a Diploma Course for Input Dealers to supplement the Agricultural Extension Services known as 'DAESI' (Diploma in Agricultural Extension Services for Input Dealers). This programme is conducted in Distance mode only for a day in week ends where the participants are exposed to the field problems as well as the class room input.

Most of these license holders are basically businessmen without proper background of agriculture. Majority of the farmers who visit dealers seek inputs on credit basis and solely depend on the dealers' advice. Sometimes these dealers are given orientation about the products by the respective manufacturers/ distributors by supplying leaflets and brochures. As they are not having the required technical background, it is often very difficult for them to understand and explain the technical aspects to the farmers. They seldom realize the implication of "Laws" related to handling of agriculture inputs.

Considering that this dealer network has spread out in almost all major villages of the country and being an important mechanism to reach out to large farming community, it is felt necessary to expose them to build their capacity in handling

field problems and extension and communication abilities while increasing their skills in dealing with inputs and discharging regulatory responsibilities. They are being trained in the areas like Crop Production and Protection Technologies, package of practices, handling of inputs, laws governing regulation of Agricultural Inputs. Also they are trained to be effective source of farm information at village level (one stop shop) for the farmers.

This concept is very well received by Input Dealers and being extended to other States. One such experiment is underway in Tamil Nadu Agriculture University (TNAU), Coimbatore.

#### **4. Public Funds for Private Extension Services**

Promotion of Private Extension needs to be matched by corresponding shifts in the allocation of public resources. Public fund is being made available to NGOs, Farmer Associations, Para-professionals or private foundations for extension work. An environment in which private investment in technology generation and transfer is more attractive will, therefore, have to be created. One such experiment is carried out in Hoshangabad district of Madhya Pradesh where Dhanuka Group of Industries forged the partnership with Directorate of Agriculture, Govt. of Madhya Pradesh and MANAGE played a role of a facilitator.

Key lessons that can be drawn from the above mentioned initiatives and their relevance as a business model for Agri-business companies and to the farming community, are summarized as follows.

#### **Lessons**

##### **1. ATMA (Agricultural Technology Management Agency)**

- ◆ Autonomous institution at the District level
- ◆ Flexible in its operations structurally and functionally
- ◆ Client driven and decentralized.
- ◆ Involves all types of stakeholders (Public, Private, NGO)

##### **2. R-E-M linkage (Research-Extension-Marketing Linkage) for farmers**



### **3. SREP (Strategic Research and Extension Plan)**

- ◆ Bottom up planning
- ◆ Farmer focused
- ◆ Situation specific
- ◆ Open up opportunities for diversification, intensification, value addition and farming system innovations

### **4. FIGs / CIGs / FOs / SHGs**

- ◆ Formation and Federation for backward and forward linkages

### **5. Agri-Entrepreneurship**

- ◆ Low cost, local with bare minimum liabilities, a link person between farmer and industry in the areas of input, marketing, advisory and services etc.

### **6. Agri-Input Dealers**

- ◆ Para-extension services

### **Relevance for Agri-Business**

1. Procurement related issues
2. Contract / corporate farming
3. Seed production
4. Profile of land, crop, farmers and farming systems to design industry intervention for input and output
5. Using groups and federations as channel for backward and forward linkages
6. Symbiotic relationship for – Market intelligence, infrastructure support, credit etc.

It is thus pertinent for both the partners in Public and Private Systems to create an appropriate platform for all the stakeholders particularly for farmers to forge relationship around the technological needs, consumer preferences and market opportunities. This would result in symbiotic relationship for mutual benefits for Agri-Business industry and farm enterprise.