
STRATEGY FOR UP-SCALING THE “ATMA” MODEL IN INDIA**M. N. Reddy**

Director (Agricultural Extension & Communication) &
Project Coordinator (Extension Reforms)
National Institute of Agricultural Extension Management (MANAGE)
Rajendranagar, Hyderabad, India
Telephone: 011– 91 – 40 – 24016702 to 706
Fax: 011 – 91 – 40 – 2401-5388
E-mail: mnreddy2000@rediffmail.com

Burton E. Swanson

University of Illinois at Urbana-Champaign

Abstract

The ATMA model was conceived and pilot tested to promote decentralized decision-making, using an integrated developmental approach based on a participatory planning process, with farmers being central to setting the agenda for research and extension, and making the public extension systems both farmer-driven and farmer-accountable. In addition, the ATMA model was created to establish an extension system that was both decentralized and market-driven to increase farm income and rural employment. The Strategic Research and Extension Plan (SREP) at the district level and the State Extension Work Plan (SEWP) at the state level are the master documents that provide the broad guidelines for those responsible for implementing the plans. The plans reflect the needs of the farmers within the available resources. The major thrusts in the ATMA model are 1) to promote the public-private partnership, 2) to ensure the mainstreaming of women and disadvantaged groups, 3) to provide a single window to deliver services, 4) to concentrate all developmental efforts at the district and state levels, and 5) to maintain flexibility in operational procedures. The strategy to realize the intent of ATMA model is further tested and refined which has become the current approach.

Introduction

Public sector extension in India is a State responsibility that has undergone several transformations since independence in 1947. Initially, the focus of extension was on human and community development, but food shortages occurring during the middle of the 20th Century forced attention on the problem of providing food security for India's people. Food sufficiency was achieved due, in great part, to an emphasis on concentrating resources in areas identified as being most productive. A program was established during the mid-seventies to deliver these assets to the farmer, the Training and Visit (T&V) Extension management system, which, while greatly successful, had a profound effect on India's extension system.

By the 1990s, the Indian Extension system was at crossroads. Because Extension had focused on disseminating Green Revolution technology for the major cereal crops primarily in irrigated areas for 20 years, farmers in rain fed areas had received little attention and realized few benefits from extension activities. In addition, extension responsibilities were largely carried out by the State Departments of Agriculture (DOA), which led to problems throughout the greater extension system. For example, because the focus was on cereal crops, the DOA became the dominant extension system, overshadowing other line departments, i.e., Animal Husbandry (DAH), Horticulture (DOH) and Fisheries (DOF). These departments had very limited extension

capacity and focused primarily on the provision of subsidized inputs and services to farmers. In addition, these line departments largely operated independently, with very little collaboration between the departments and their field staff or among the line departments themselves. As a result, the “farming systems” approach was not in place.

Other problems plagued the system. The DOA experienced financial difficulties because of the large increase in the number of new extension workers that were added under the T&V extension system. In addition, because the central government supplied most of the program funds, extension priorities were planned from the top-down, excluding farmer input from the planning process. The dominant focus on food production meant that extension focused on the major cereal crops and was supply-driven. Hallmarks of the “market-driven” system, i.e., increasing farm income and promoting crop diversification, were not a priority. The T&V Extension management system was successful and crop yields increased; but, as a result, crop prices fell and farm incomes fell with them. Other problems were present including 1) the fact that the line department staff became accountable to the central government, not the farmers they were meant to serve; 2) the central government, being involved in supplying inputs to farmers, were prone to view private sector input dealers as part of the problem, not part of the solution; 3) there was a deterioration of the research-extension linkage because extension programs were centrally planned; and 4) on the whole, extension was not mandated to empower farmers by forming farmers groups.

To address the situation, in the late 1990s, the Government of India (GOI) and the World Bank pilot-tested a new, decentralized, market-driven extension model under the National Agricultural Technology Project (NATP). This new approach was designed to help farmers diversify into high-value crops and livestock enterprises, the products of which they could then sell, as a means of increasing farm income, rural employment and poverty alleviation. The Innovations in Technology Dissemination (ITD) component of NATP was implemented in 28 districts in the country. As will be seen below, this intervention redefined the agricultural extension service in these 28 districts through the entire agricultural process, from obtaining seed to receiving money for the product.

The key institution in implementing this new approach was the Agricultural Technology Management Agency (ATMA) which was responsible for facilitating and coordinating “farmer-led” extension activities within each district. The key elements of the ATMA model include: 1) taking “farming-systems” approach which required the integration of extension activities across the different line departments; 2) organizing small-scale farmers, including women, into farmer-interest groups (FIGs); 3) decentralizing extension decision-making down to the district and block levels including farmer input; and, 4) linking the farmer-interest groups to markets for the purpose of increasing farmer income and creating rural employment.

ATMA focused on a bottom-up planning process in order to make the entire extension system farmer-driven and farmer accountable. This has helped to strengthen research and extension capabilities, restructure public extension services and test new institutional arrangements for technology transfer with the involvement of all the stakeholders of Government and Non-Governmental agencies at the district level. New institutional arrangements were created at different levels to put the project into operation.

Purpose and Objectives

Because the ATMA model was successful in raising farmer income during the pilot study, the GOI decided to expand this approach to an additional 252 districts during the current 10th planning period. It is the National Institute of Agricultural Extension Management (MANAGE), which played a pivotal role in implementing the NATP project that has been given responsibility for bringing about this change. It is the purpose of this paper to first identify the most effective strategies for transforming the national extension system to meet this challenge by describing changes that have been made to the ATMA structure and function as a result of the pilot project, and second, to suggest ways in which more than 50,000 line department staff members may be trained to implement this new approach. The next section of the paper briefly describes the ATMA structure and function.

ATMA: A Mechanism for Broad-Based Extension

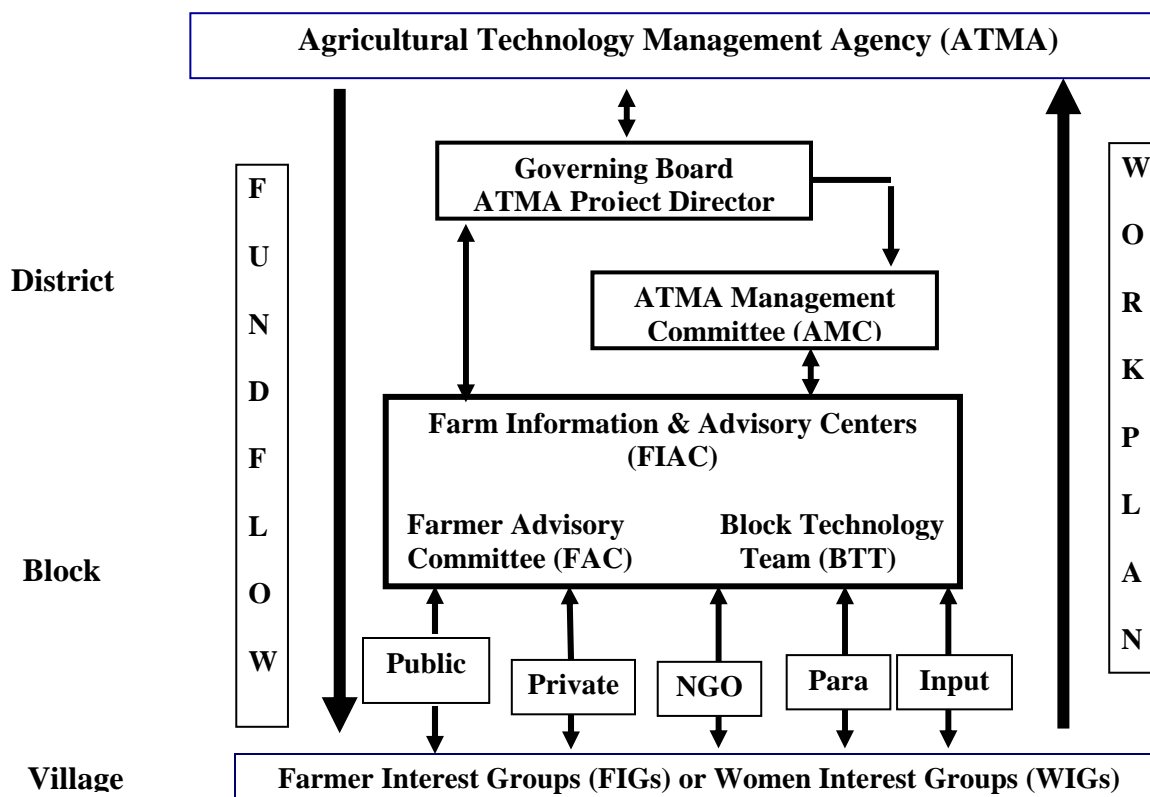
ATMA was established at the district level as an autonomous organization registered under 'Societies Registration Act 1860'. ATMA is governed by representatives of technology generation/refinement and dissemination systems, line departments, the farming community and other stakeholders who are members of its Governing Board (GB). The GB is headed by the District Collector with the Project Director serving as its Member Secretary. The ATMA Governing Board decides extension priorities, based on strategic plans. (Figure 1 below illustrates the organizational structure of ATMA.) ATMA ensures farmer involvement in the decision-making process and promotes dissemination of farmer-driven technology. ATMA has built-in flexibility in operating financial resources for extension programs, which are based on bottom-up planning using the Strategic Research and Extension Plan (SREP). The SREP is developed by a district-level core team of experts using the Participatory Rural Appraisal (PRA) approach.

Establishing and Operationalizing ATMAs

The central theme of extension reforms focused on setting up of a decentralized system for planning and delivery of extension services at district level in the form of the ATMA.

Each ATMA was provided with a small staff structure with one Project Director, one Deputy Project Director, one Accountant, one Establishment Assistant and one Supporting Staff primarily through redeployment. The Project Directors and Deputy Project Directors were drawn from different line departments and research organizations, depending upon the priority of the district. This mechanism has helped in seamless interaction between research and extension and among all the stake holders.

Figure 1: Organizational Structure of Agricultural Technology Management Agency (ATMA).



The Key Elements of the ATMA Model

Decentralizing Extension

Within the ATMA structure there are two sets of mechanisms that integrate extension activities at the district and block levels. The ATMA Management Committee (AMC) decentralizes and integrates decision-making at the district level while the Block Technology Team (BTT) organizes and integrates extension activities across each block. The key mechanisms for “bottom-up” planning and for stakeholder participation in decision-making are the ATMA Governing Board at the district level and the Farmer Advisory Committees (FACs) at the block level.

As a registered society, ATMA has more flexibility than government line departments. They can receive funds from both government and non-government sources, enter into contracts; maintain revolving accounts, charge for services and recover costs from farmers or other service recipients. In terms of institutional ranking within a district, the ATMA ranked above the line departments; therefore the Project Director (PD) was able to mobilize extension resources across all of the line departments especially extension staff at district level through BTT convener at the block level. In addition, each PD had access to project funds that could be used for a variety of

different extension activities as approved by the ATMA Governing Board (AGB), headed by the District collector.

The key to successful project implementation began with project leaders who fully understood and were committed to implementing the ATMA concept and procedures. In addition, there had to be effective leaders and managers who could transform these concepts into useful programs, especially in motivating the BTTs and in activating the farming community.

Strategic Planning

Departing from the traditional top-down practice, the planning process began with the development of a Strategic Research and Extension Plan (SREP) for each pilot district, which was prepared at district level after the systematic assessment of technological gaps, issues, success stories and problems pertaining to various farming systems prevailing in the district.

The district core team in consultation with the district department heads, along with scientists of Zonal Research Stations (ZRS), identified the major agro-ecological systems (AESs) in each district. In addition, the major farming systems under each AESs were identified. Then, representative villages for each of these major farming systems were selected by visiting the villages under each AES. The core team was further divided into interdisciplinary sub teams depending upon the sectoral requirement of the Agro-Eco Situation (AES) within the district. The data was collected on adoption gaps, technological gaps, and institutional gaps by involving different categories of farmers including resource poor and women.

Market-Driven Extension

Strategic planning was the first step towards transformation of ‘target-driven extension system’ into ‘demand-driven extension system’. Participation of farmers on the GB, the AMC and the FAC gave them an opportunity to identify various problems facing the farming community. In addition to giving feedback on action plans prepared by extension official, farmers also brought up different issues of wider relevance. In these ways, farmers played an important role in setting extension priorities within the district. With accountability to solve farmers’ problems and built-in operational flexibility, ATMA made suitable interventions.

Farming Systems Approach

Where possible, farmers take up more than one enterprise, based on their resource base, to make their farming economically viable. To operate more profitably, farmers need to integrate multiple enterprises, based on their resources, by diversification and intensification. To make this possible, the strategic planning process promoted in this project focused on identification of popular farming systems followed in the various agro-eco situations. This became the basis for the analysis of gaps in technology adoption, managerial aspects and institutional support systems.

Broad-Based Extension and Integrated Delivery of Services

The integrated delivery of services was a direct result of the integrated/holistic planning process, focused on the existing farming system in an area. Once the plan was in place, individual line departments took up their portion of its implementation individually under the coordination of the AMC and the BTT. Thus, line departments maintained their individual identities but joined together to implement various extension programs that were identified through the bottom-up planning process.

Research-Extension-Farmer-Market Linkages

ATMA has provided a useful administrative framework to effectively integrate research and extension activities at the district level. The project interventions have improved the R-E-F-M linkage and feedback process which began when they cooperated in carrying out the field assessment for and preparing the SREP.

The ATMA Governing Board and Management Committee have provided common platforms for regular and personal interaction among scientists, extension administrators and farmers. On one hand, it has improved the awareness level of farmers, while on the other it has enabled the scientists and extension administrators to more clearly understand the farmers' needs and problems.

Mobilization of Communities

Commodity-oriented Farmer Interest Groups (FIGs) are promoted at the block/village level to make the technology generation/dissemination both farmer-driven and farmer-accountable. These Village-level FIGs are organized at the block/district level and represented in the FACs and on the GB. To address the extension needs of these groups, ATMA has reached out to establish close linkages with various players operating at the cutting edge level (viz., public, private, NGOs, Para extension workers, input dealers, etc.).

Team work

An effort was made throughout the pilot project to use a teamwork approach at all levels to bring together resources and to address farmers' problems in an integrated manner.

Public Private Partnership

As the agricultural private sector became increasingly involved in meeting the many demands of the farming community, a Public-Private Partnership between the private sector and extension provided an opportunity to work together to promote extension efforts. This partnership has emerged as one of the crucial areas in agricultural extension. For example, a large number of ATMAs have taken initiatives to develop partnerships with the private sector in the processing industry, farmer's organizations, cooperatives, corporate bodies etc. in different areas. This partnership facilitated the dissemination of technologies, the supply of quality inputs (seed, fertilizers, micro-nutrients, bio-fertilizers, pesticides and bio-pesticides and other technological tools) and marketing of farmers' produce.

Impact of ICT Interventions in ITD

Agricultural information kiosks were established by different ATMAs in selected pilot districts. Efforts were also made to digitize appropriate content and provide farmers with central information through these kiosks on an on-line basis.

Gender sensitization

Women's participation in agriculture has been widely recognized by all the development agencies, and women farmers were included at every level of ATMA participation. Women were involved in the decision-making system from the federal level down to the FAC. Two, non-official members representing the interest of women farmers and a NGO were represented at the

federal level. ATMA also was careful to honor the provision of nominating 30 per cent, non-official, women representatives on the GB.

Up-Scaling the ATMA Model–Current Approach

After NATP's implementation period (1998–2005), when the ATMA model was pilot tested, it was decided to expand the system to cover a wider area, based on the fact that the strategy used resulted in an increase in farmers' income. It is essential to identify the important lessons that were learned from the pilot study in order to refine the concept and the ATMA model before it is applied to 252 districts covering more than 50% of India. The lessons learned, and which were put in place in the present ATMA model, were both of a practical and qualitative nature. A description of these changes is given as below.

Structural Changes

The Governing Board of ATMA has been strengthened by including public representatives as ex-officio members. As a result, ATMA activities are more widely accepted, indicating that the needs of the farmers are understood and consequently greater accountability of all the stakeholders is given. In addition, the Governing Board has gained greater flexibility as various schemes being run by the State Development Machinery have concentrated at the district level and funds given to implement developmental activities are channeled to a single source.

The service providers for irrigation, the power supply, credit and marketing have been made important stakeholders in the decision making process, with significant results. Inclusion as stakeholders has facilitated the delivery of services to the farmers, for example, when to release water, at what frequency, devising cropping pattern for the given area, gathering market intelligence favoring farmers and streamlining the credit flow. These services have improved both in terms of quality and speed, giving greater leverage to the farmers and enabling them to use their resources at the optimum and to sell their product for the highest price, thus increasing income.

Functional Changes

In the initial phase, the group approach (Commodity Groups, Women Groups, Self Help Groups, and Farmers Interest Groups) developed slowly. After 4–5 years, however, the groups have grown and have now emerged stronger in terms of their negotiating skills. They have developed strong linkages with research institutions, input agencies, credit institutions, insurance groups, private sector agribusiness companies, cooperatives and marketing agencies. These groups, which were initially found only at the village level, have now organized at the block, district and state levels. These organizations have emerged as strong farmers' bodies capable of putting pressure on the system with the ability to articulate their needs and demands for various products and services.

The developmental efforts which were initially made by the individual departments are now being integrated, and all of the departments have been brought together at the block, district and state level. As a result, duplication of effort is avoided and the State Extension Work Plan (SEWP) is being used. The SEWP documents are available and recognized as the blue print for the agricultural development of the State.

The Strategic Research and Extension Plan (SREP) prepared for a district has been expanded to include information on: marketing opportunities, processing facilities, involvement

of agribusiness companies, storage facilities and information on how to create other linkages to add value along the entire supply chain.

Policy Changes

No budgetary allocations were made for either the public-private partnership or the streamlining of women into agriculture in the first pilot testing of the ATMA model. Based on the pilot study experience, it was recognized that without the full participation of women, complete agricultural development cannot take place as women make up a substantive portion of agricultural work force. Accordingly, 30 per cent of the budgetary allocation was made in the Extension Reforms Agenda for the inclusion of women. The introduction of such provisions in the agricultural development programs would certainly boost the participation of women in agriculture, ultimately becoming part of the SREPs and SWEPs.

In the pilot-testing phase, the public-private partnership, though recognized as important, did not become a reality because of various legal, financial and procedural hindrances. During the last year, however, the stakeholders have realized that agriculture development cannot proceed properly unless this partnership is in place. The reasons a public-private partnership must be in place are easy to understand. All needs, i.e., the knowledge base, skill base, human resources and financial assistance, cannot be provided by the public extension system alone. These needs should also be met by the Private Sector, NGOs, Cooperatives, Agripreneurs, Farmers' Organizations and Federations. Toward this end, a 10 per cent budgetary allocation was made for public-private partnership in the Extension Reforms Agenda. While preparing the SREPs, the private sector is encouraged to contribute and partner in the entire value chain to enhance the income of the farmers. There is a built-in mechanism created in the SREPs for providing market intelligence, setting up of market network and physical infrastructure, setting up of kiosks, networking with process industries, storage facilities, development of communication networks, linkages with credit institutions, risk coverage etc. for farmers.

Human Resource Interventions

If the ATMA model is to be up-scaled to 252 districts, it is imperative to create a large pool of trained manpower in India. To realize this objective, the concept of National Facilitators was created by MANAGE. These national facilitators are identified from the State Agricultural Universities, State Agricultural and Developmental Departments, NGOs, Krishi Vigyan Kendras, ICAR Institutions and other Centers of Excellence engaged in agricultural development. The group of facilitators, 119 in all, is made up of specialists in different technical subjects who also have adequate training and exposure in Management and HR issues. Also, they occupy senior positions in their respective departments which help them to have an adequate influence on decision making machinery at district and state level. Once selected, the national-level facilitators were trained in Extension Reforms Agenda, preparation of SREP and SEWP, Institutional Building and Network (ATMA, SAMETI), the Participatory Planning Process, Project Management Techniques and such other issues in the context of the State necessary for implementation of ATMA model.

The concept of how the ATMA model was used to implement this new and extensive extension reform was also explained to the State Secretaries of Agriculture. Educating the state-level executives helped them to understand the purpose and goal of the ATMA model and, hopefully, will help smooth the way to implementing ATMA's efforts. The State Nodal Officers

were also oriented in the preparation and implementation of work plans under Extension Reforms Agenda.

The Extension Reforms Scheme is hosted on MANAGE website and includes details of the scheme, how ATMA was established and how it operates, an explanation of SREP procedure and format and SEWP preparation, a list of national facilitators, a list of contact persons at Ministry of Agriculture, GOI and State Governments, Districts, etc., for speedy accessibility and use.

Conclusions and Recommendations

The current ATMA model for agricultural development now includes the results of the lessons learned during the pilot study. This model is currently being implemented in 252 districts compared to 28 districts in the first phase. Certain structural changes have taken place affecting how ATMA conducts its affairs, such as the expansion of the Governing Board by involving service providers together with other stakeholders in decision-making and the convergence and integration of all development schemes within the domain of ATMA.

The SEWP document has emerged as the blue print for State agricultural development, encompassing all the issues relating to production, research, marketing, processing and adding value.

A significant change in the current ATMA model is the allocation of specific budget lines for mainstreaming gender and public-private partnership concerns. This policy change will certainly facilitate the capital inflow and sharing of resources to generate wealth in the agriculture sector. Also, a large number of extension professionals are being trained with a more useful knowledge and skill set, plus an attitude to carry out these extension reforms.

With these current changes in place, the district-level ATMA is expected to become the single, most vibrant institution providing a useful connection between farmers, extension and other service providers and stakeholders. The shift from top-down, central planning to a bottom-up, farmer/stakeholder-involved planning strategy is being accomplished. Equally important is the shift to a more market-driven extension system that fully supports farmers' efforts to increase farm income and rural employment. There is usefulness and energy in the ATMA model, as channels are forged and connections made and remade between producers, the private sector, researchers, and extension workers who are now serving their client in ways that were not possible before the introduction of the ATMA model.

References

- Department of Agriculture & Cooperation. 2005. "Support to State Extension Programmes for Extension Reforms." Guidelines on X Plan Scheme of the Department of Agriculture & Cooperation, Ministry of Agriculture, Government of India.
- MANAGE. 2005. "Process Change in Agricultural Extension: Experiences under ITD Component of NATP," National Institute of Agricultural Extension Management (MANAGE), Rajendranagar, Hyderabad.