



Munich Personal RePEc Archive

## **A Note on Indian Agricultural System vis-à-vis ATMA Model**

Singh, K.M.

RAU, Pusa, Samastipur, Bihar, India

4 October 2015

Online at <https://mpra.ub.uni-muenchen.de/67134/>

MPRA Paper No. 67134, posted 08 Oct 2015 07:12 UTC

## **A Note on Indian Agricultural System vis-à-vis ATMA Model**

K.M.Singh<sup>1</sup>

During the past 60 years, the Indian extension system has evolved to reflect national priorities. At the outset, extension worked to bring about broad-based rural development. However, the food crises starting in the late 1950 refocused the efforts of extension on food security and increasing food production. The combination of Green Revolution technology in the late 1960s and Training and Visit (T&V) extension in the mid-1970s enabled India to achieve food self-sufficiency during the 1980s-1990s. At the same time, malnutrition and poverty continue to be persistent problems for the rural poor. As a result, the Government of India, with the assistance of the World Bank, designed and pilot-tested a new extension approach that would decentralize extension and make it more market-oriented (Singh and Meena, 2011). The move from a policy of food security to a strategy that focuses on agricultural diversification aimed at increasing farm income and rural employment carries with it implicit risks for the small-scale farm households that are expected to benefit from this approach

The major issues before Indian extension system are: how to improve the effectiveness of extension systems? How to serve the small land holders and marginal farmers in diversified farming systems, and proper allocation of funds, human resources and its management? Decentralizing a large, complex national extension system is not easy; however, the Government of India appears to be moving toward this long-term goal. Effective synergies need to be established with the ongoing agricultural interventions in the form of national missions for both sustainability and leveraging the limited resources available for extension. This will improve both allocative and operational efficiency of the extension system and the Department of Agriculture at the state level. Increasing the effectiveness of the extension system in meeting its objectives will require readdressing of the above policy and programmatic interventions. Finally, the financial dependence of the states on central government needs to be gradually reduced to enable the states, and ultimately the farmers, to take ownership of their reformed extension systems. (Babu et al. 2013)

---

<sup>1</sup> Chairman, Department of Agricultural Economics, RAU, Pusa Samastipur, Bihar 848125, India

Public extension by itself can no longer respond to the multifarious demands of farming systems. There is need to re-evaluate the capacity of agricultural extension to effectively address the contemporary and future needs of the farming community. Public funding for sustaining the vast extension infrastructure is also under considerable strain. Meanwhile in response to market demand, the existing public extension network is inexorably being complemented, supplemented and even replaced by private extension. As the nature and scope of agricultural extension undergoes fundamental changes, India looks for a whole new policy mix that nurtures the pluralistic extension system in India (Singh et al. 2013a).

There are five major agricultural public sector extension systems devoted to extension work in India: (i) the Ministry of Agriculture at central level, including the Indian Council of Agricultural Research (ICAR) and the Directorate of Extension (DoE); (ii) State Departments of Agriculture (DoA), as well as the State Agricultural Universities (SAUs); (iii) the Departments of Agriculture (DoA), Animal Husbandry (DAH), Horticulture (DoH) and Fisheries (DoF), as well as the Krishi Vigyan Kendra (KVKs) and, more recently, the Agricultural Technology Management Agency (ATMA) at the District level; (iv) also, there are a wide variety of producers groups, including cooperatives and federations of milk, fruits, cotton, oilseeds, coconut, spices etc.; as well as (v) civil society organizations, such as the Non-governmental Organization (NGOs). In agricultural innovation systems, there are still large gaps between research and extension approaches (Singh et al. 2013b).

Although ATMA model has been successful in addressing many of the extension problems and has shown exceptional impacts during the NATP phase but it seems to be going the T&V way. It is therefore, imperative that in the country like India, which has a vast territory and extremely diverse socio-economic and agro-climatic situations, ATMA model should be introduced and implemented with utter cautious. Different ATMAs should be empowered with sufficient administrative, financial and implementation flexibilities to address the basic problems in their operational jurisdiction (Singh et al. 2012).

ATMA model which was introduced to replace T&V to overcome some of its weaknesses has been quite successful and for the first time, an attempt for convergence of extension by different service providers has been attempted through a legally-constituted body. In addition, ATMA's have developed a mechanism for

participation of farmers in deciding priorities (through SREP), identifying and implementation programmes (through Farmer Advisory Committees-FAC's). This has brought some additional funding for implementing demonstrations, trainings, exposure visits, and forming farmer groups and the groups are now facilitated in developing better links with agro-processors. (Singh and Jha 2012).

At the end of the NATP project, it was decided that extension field staff would need continuing access to unobligated, central government funds if they are to successfully implement this bottom-up, participatory extension approach. To date, however, most central government funds are still obligated to specific program activities that reflect the previous, top-down, technology-driven extension system. If the district- and block-level extension field workers do not have access to unobligated program funds, then further progress in implementing a decentralized, participatory, market-driven extension approach will be very limited (Swanson, 2008)

The World Bank funded Innovations in Technology Dissemination (ITD) component of National Agricultural Technology Project (NATP) focused on bottom-up planning process for technology assessment, refinement and dissemination in order to make the whole extension system demand-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-Government agencies at the district level.

Despite some hiccups and the lower than expected support from the state government the model worked due to its innovative approach i.e. autonomy and fund flow mechanism, and was able to win back the confidence of all the stakeholders including farmers, towards the system which they had lost over the years due to the general apathy of the successive government towards this sector. If this pattern of funding is changed or the state' governments financial rule are applied the autonomy of ATMA would be compromised and then this would go the same way other similar projects have gone, downhill (Singh, 2007).

For serving the small communities efficiently, Information and Communication Technologies could be useful tools to increase connectivity between various Farmer Interest Groups/ Self Help Groupss. It will also reduce extension cost and the

workload of extension functionaries. There is need to learn from other actors like private sector, Non-Governmental Organizations as they have much in-depth presence with various successful model (Meena et al. 2013).

At the same time, it is well understood that awareness-raising and training are highly valued and lead to empowerment. Any knowledge transfer should take into account farmers' point of view, with the aim of building on their knowledge and capitalize it: climate change is a global problem with local impacts, thus information technology, jointly with communication sciences, can play a big role in blending different perspectives (Meena et al. 2012).

While it seems likely that participatory approaches will continue to spread in the next few years, it is impossible to predict the long-term future of extension. Compared to 20 years ago, agricultural extension now receives considerably less support from donor agencies. Among academics working in this field, some have recently argued that agricultural extension needs to be reinvented as a professional practice. (Leeuwis, C. and van den Ban). Many authors have abandoned the idea of extension as a distinct concept and prefer to think in terms of "knowledge systems" in which farmers are seen as experts rather than adopters. (Roling, N. and Wagemakers, A.)

However, extension activities can still play very important role in popularization of new technologies, through training, demonstration in farmer's field, on farm trial related to various potential problems faced by farmers and exposure visit of farmers to successful farmer's field. However, coordination is also required within the different disciplines/specializations, between institutions and departments as well as functional areas like research, extension and training along with people's participation and new thrust on participatory research and development to bring farmers in the framework of interactions at all levels. (Singh and Shahi, 2015)

Aspects of future extension education:

- Evolution of extension system and operationalisation of approaches
- Future extension education initiatives
- Collegiate participation of farmers
- Web enabled technology dissemination
- Developing cases as tools for technology dissemination

- Agriculture as a profitable venture
- Scaling up of group mobilization
- Micro-enterprises promotion

Several of the institutional innovations that have come up in response to the weaknesses in public research and extension system have given enough indications of the emergence of an agricultural innovation system in India (FAO). This has resulted in the blurring of the clearly demarcated institutional boundaries between research, extension, farmers, farmers' groups, NGOs and private enterprises. Extension should play the role of facilitating the access to and transfer of knowledge among the different entities involved in the innovation system and creates competent institutional modes to improve the overall performance of the innovation system. Inability to play this important role would further marginalize extension efforts.

## References

1. Babu, S.C, Joshi, P.K.; Glendenning, C.J., Kwadwo,A.O. and Sulaiman, R.V. 2013. The State of Agricultural Extension Reforms in India: Strategic Priorities and Policy Options Agricultural Economics Research Review Vol. 26 (No.2) July-December 2013 pp 159-172.  
<http://ageconsearch.umn.edu/bitstream/162155/2/2-SC-Babu.pdf>
2. <http://www.fao.org/docrep/w5830e/w5830e03.htm>
3. Leeuwis, C. and van den Ban, A. *Communication for Rural Innovation: Rethinking Agricultural Extension* (3rd Edition), Blackwell Publishing
4. Meena, M. S., Singh, K.M. and Singh, R. K. P. 2012. ICT-Enabled Extension in Agriculture Sector: Opportunities and Challenges in Climate Change Situation. In: Singh K.M., Meena M.S., ed, ICTs for Agricultural Development Under Changing Climate, Narendra Publishing House, Delhi.
5. Meena, M. S., Singh, K. M. and Swanson, B.E. 2013. Pluralistic Agricultural Extension System in India: Innovations and Constraints. Available at: <http://dx.doi.org/10.2139/ssrn.2293788>
6. Roling, N. and Wagemakers, A. Editors.(1998), *Facilitating Sustainable Agriculture: Participatory learning and adaptive management in times of environmental uncertainty*, Cambridge University Press
7. Singh, K. M., 2007. A Study on Impact of ATMA Model in Bihar. Aailable at: <http://dx.doi.org/10.2139/ssrn.2272563>
8. Singh, K. M. and Shahi, Brajesh, 2015. Popularizing Direct Seeded Rice: Issues and Extension Strategies. Available at: <http://dx.doi.org/10.2139/ssrn.2657114>

9. Singh, K. M., Swanson, B.E. and Meena, M. S. 2013a. Reforming India's Pluralistic Extension System: Some Policy Issues. Available at: <http://dx.doi.org/10.2139/ssrn.2306980>
10. Singh, K. M., Meena, M.Singh and Swanson, B.E., 2013b. Extension in India by Public Sector Institutions: An Overview. Available at: <http://dx.doi.org/10.2139/ssrn.2315457>
11. Singh, K. M., Swanson, B.E., Jha, A. K. and Meena, M. S. 2012. Extension Reforms and Innovations in Technology Dissemination – The ATMA Model in India. Available at: <http://dx.doi.org/10.2139/ssrn.2168642>
12. Singh, K. M. and Jha, A. K. 2012. Innovative Approaches in Technology Dissemination: Experiences of ATMA Model in Bihar. Available at: <http://dx.doi.org/10.2139/ssrn.2168646>
13. Singh, K. M. and Meena, M. S. 2011. Agricultural Innovations in India- Experiences of ATMA Model. Available at: <http://dx.doi.org/10.2139/ssrn.1989823>
14. Swanson, B.E., Singh, K. M. and Reddy, M. N. 2008. A Decentralized, Participatory, Market-Driven Extension System: The ATMA Model in India. Available at: <http://dx.doi.org/10.2139/ssrn.2168648>