Farmer Scientist Forum: an approach to Market-led Extension

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Introduction

The present day agriculture is defined by the key concept of stability, sustainability, diversification and commercialization. In the last decade, the agricultural situation in India has undergone a tremendous change in the light of liberalization and establishment of the World Trade Organization (WTO). India's signing of the General Agreement on Tariffs and Trade (GATT) in 1994 and joining of WTO has put our agricultural sector into a framework of the global market. Low productivity of crops added to less remunerative market prices of agricultural commodities are the major causes of worry. Thus, agricultural enterprise is found to be not very profitable although a large majority is dependent on it. With the globalization of agriculture, major emphasis is laid on increasing the productivity of crops. During the last 50 years, major emphasis has been on Production-led Extension.

In the changing situation, farmers need to transform themselves from mere producer-sellers in the domestic market to producers cum sellers in a wider market sense to realize good returns on their investments, risks and efforts. In order to achieve this goal, farmers need to know answers to questions like what to produce, when to produce, how much to produce, when and where to sell, at what price and in what form to sell their produce. Farmers have received most of the production technologies from the extension system. The extension system needs to be oriented with knowledge and skills related to the market. This revamping of extension system will certainly play a catalytic role for ushering in market-led extension in India.

The main purpose of this article is to provide a conceptual and operational framework for making the extension system more demand driven and market oriented.

The objectives are

- To provide a conceptual paradigm for operating market-led extension system and
- To document the field experiences of market-led extension approach of MPKV, Rahuri.

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Methodology

Keeping the purpose in view, the conceptual paradigm of market-led extension system has been developed by critically reviewing the relevant literature, previous experiences of different extension approaches and discussions with experts of extension education. Further, field experiences of Farmer-Scientist Forum (FSF) of MPKV, Rahuri regarding market-led extension strategies were documented, analyzed and inferences drawn upon.

1. Paradigm shift towards Market Led Extension

India's agricultural extension system is at a pivotal point in its development. The arrangements for agricultural extension in India have grown over the last five decades, in terms of activities, organizational types and available manpower. At the outset, extension worked to bring about broad-based rural development. However, the food crisis starting in the late 1950s 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) system in the mid-1970s enabled India to achieve food self-sufficiency during the 1980-1990s. Thereafter, the Government of India with the assistance of the World Bank designed and pilot-tested a new extension approach i.e. Agriculture Technology Management Agency (ATMA) that decentralized extension system and focused on agriculture diversification, thereby, making it more market-oriented. This market-driven extension system has really made an impact in increasing farm income by organizing the farmers and making the system viable through bottom up planning (Singh et.al, 2006).

While discussing the various issues in agricultural extension of 21st century in India, Samanta (1991) highlighted the importance of institutional reconstruction and renewal, and decentralized extension structure. Recently many developing countries have reaffirmed the essential role that agricultural extension can play in agricultural development as pointed out by Birner et al. (2006) and Anderson (2007). Therefore, extension functionaries need to play a major role to build the capacity of the farmers to meet the emerging challenges and make the farmers realize better prices for their farm produce. Zijp (1995) and Rivera (1997), observed that extension has to once again reorganize as a service for providing information, advice and education, rather than technology transfer. This renewed definition of extension multiplies its potential to move beyond purely production and productivity concerns to those knowledge and information intensive, organizing clients into groups and marketing. In order to successfully address the above issues and challenges, extension needs to be looked at with an altogether new perspective. Hence, there is an urgent need to shift the paradigm of extension system from mere production-led to market-led extension system on end-

to-end basis. Therefore, a new framework for conceptualizing and operating extension system is evolved and diagrammatically presented in Table 1 and its practical approach has been discussed with relevant experiences.

Table 1. Paradigm Shift from Production-led to Market-led Extension System

Components	Production-led	Market-led
Purpose Objective	Transfer of production technologies	Enable farmers to get optimum returns out of enterprises
Goal	Food self-sufficiency	High returns and increase net profitability
Approach	Top-down, commodity and supply driven	Market driven
Actors	Mostly public institutions	Integration of public, private, non-government and farmers organizations with marketing and processing agencies
Mode	Mostly interpersonal/ individual approach	Joint analysis of issues by all the stake holders, varied choices for adoption of consultancy, use of ICTs and media
Role of extension agents	Limited to delivery mode and feedback to research system	Enriched market intelligence besides TOT function, establishment of linkages between market agencies, agro-processors and farmers groups
Linkages/ liaison	Research- Extension-Farmers	Research- Extension-Farmers Organizations (FIGs, CIGs, SHGs) extended by market linkages
Emphasis	Information management, Production "Seed to Seed"	Market intelligence , whole process as an enterprise / high returns "Rupee to Rupee"
Nature of technology	Input intensive, crop based and general recommendations as per agro-climatic zone, fixed package of information	Information intensive like price trends, demand and supply position, current prices, marketing practices, information communication network, etc.
Critical areas	Improvement, production and protection	Market intelligence, post-harvest management practices like value addition, grading, standardization of produce, processing and certification
Critical inputs	Money and material	Marketing information and Marketing facilities/infrastructure
Accountability	Mostly government	Farmers including all stakeholders

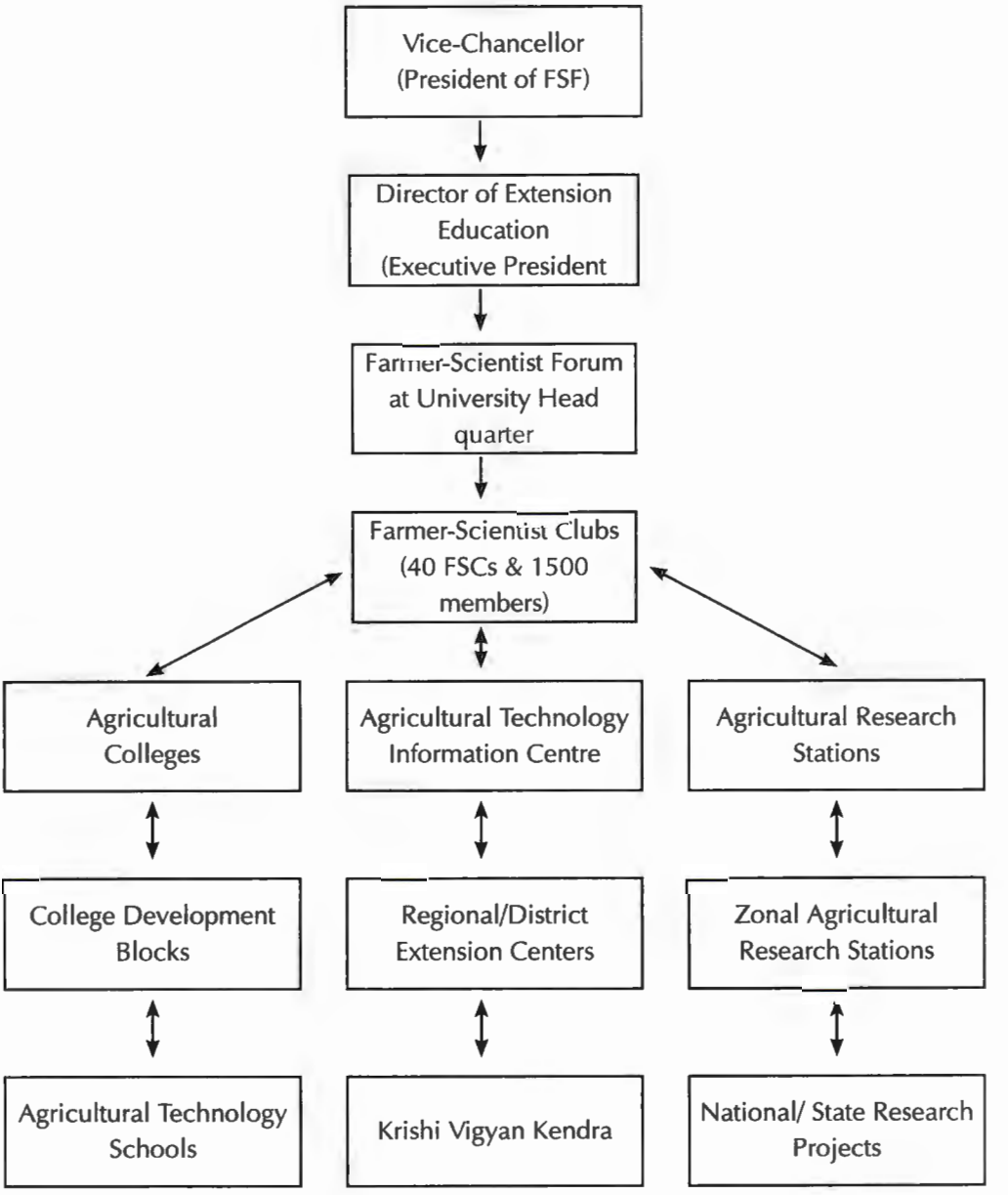
2. Farmer-Scientist Forum as a Model of Market-led Extension

The Mahatma Phule Krishi Vidyapeeth (MPKV), Rahuri has been implementing the novel concept of Farmer-Scientist Forum (FSF) since October 2005. The Vice-Chancellor is the president, while, the Director of Extension Education is the Executive President of this FSF. The FSF established at the Central Campus, comprises of 40 Farmer-Scientist Clubs (FSCs) with 1500 member farmers in the jurisdiction of ten districts of the university. Each FSC has a co-ordinator and these FSCs are attached to the Colleges, Agricultural Research Stations and Agricultural Technology Schools. These FSCs function as Commodity Interest Groups (CIGs). The basic idea of formulating the FSCs is to demonstrate and to educate the farmers about the technologies generated by the university at different locations. MPKV has developed the farms of these members as a model for the village and these farmers in turn are serving as farm leaders to disseminate the university technologies to other farmers in their area. Participatory research- extension approach is being promoted through the FSF. Database of soil, water, cropping pattern, various enterprises of member farmers etc. has been developed by the university and accordingly location specific interventions are suggested for increasing their income through agro-based enterprises. The university scientists regularly provide information on market driven crop selection and post harvest management practices including grading, packaging, storage, value addition and processing. Regular Monthly Meetings and Review Meetings are organized, wherein there is interaction between FSC members and university scientists. In addition to this, member farmers are regularly trained and information is provided through Helpline service, Kisan call, e-dialogue facility, video conferencing, mobile crop dispensary and publications viz., Krishi Darshani, Shri Sugi etc. The operational mechanism of the Farmer-Scientist Forum is depicted in Fig.1.

3. Experiences of Market-led Extension through FSF

a. MPKV, Rahuri implemented chickpea seed village programme on organized farms of members of FSCs in Varur village of Ahmednagar district in Maharashtra. Good coordination among Agriculture University, State Department of Agriculture and efforts of farmers yielded magnificent results. The programme was implemented on 70 acre area in rabi season during 2006-07. Initially University scientists trained 40 members of FSC on seed production techniques and provided foundation seed of 'Virat' chickpea variety. The University scientists also guided the farmers on soil testing, chickpea seed production technology, IPM etc. The village produced 430 qtl. of certified seed of 'Virat' variety. The scientists and extension personnel of agriculture department jointly provided guidance on seed storage, seed certification, rules and regulations, grading, packaging and marketing aspects. The agricultural scientists and extension personnel gave publicity and propaganda to this programme

Fig1. Operational mechanism of Farmer-Scientist Forum- MPKV Model



through different media among the farming community and motivated other farmers to purchase the certified seed directly from the producers of 'Varur' village. At the market rate of Rs. 50/kg, 430 qtl. certified seed worth Rs. 21.50 lakh was sold by the village. The producers also used cell phone for marketing of chickpea seed. These farmers kept some seed for themselves to ensure timely availability of quality seed in their village. This is a good example of market-led extension.

b. Another chickpea seed production programme was implemented in Tambhere village of Ahmednagar district in 2007-08. The breeder seed of 'Digvijay' variety of chickpea was supplied to 12 farmers at the cost of Rs.4500/qtl. and implemented on 7.10 ha. area. The technical guidance was provided by University scientists and registration was by District Seed Certification and Seed Certification Agency, Ahmednagar. This village produced 101.69 qtl. foundation seed of chickpea. The average productivity was 14.29 qtl./ha. A total 82.80 qtl. processed seed was purchased by Seed Cell Unit of MPKV, Rahuri @ Rs. 3000/qtl. from the producers and sold to other farmers. The details of this seed production programme along with cost of production and economic benefit received by the farmers is presented in Table 2.

c. A good example of market-led extension has been realized through formation of women FSCs. A woman member farmer of FSC, Mrs. Vanita Gunjal from Kandali village of Pune district produces continental vegetables for marketing in five-star hotels such as Taj and Oberoi in metropolitan cities like Pune and Mumbai. She owns a meager land of 1.87 ha., but the satellite marketing under the guidance of university scientists has reaped her rich benefits. MPKV is also providing guidance on vegetable production techniques and post harvest management aspects. After grading and packaging, vegetables are dispatched to Mumbai by road transport. Marketing of these exotic vegetables is done under the trade name of Green Pallavi Farms and Sales. She is getting Rs.25000/month monetary returns and higher prices for vegetables during off-season also, because she is cultivating vegetables as per demand of the hotels. Mrs. Gunjal is a winner of the N.G.Ranga Farmer Award for Diversified Agriculture (2005-06) of the ICAR, New Delhi.

d. Another member farmer of FSC, Shri. Hanumant Gajare from Aran village of Solapur district has put forth an ideal example of market-led agriculture through bumper and market oriented pomegranate production in the scarcity zone. He has cultivated Phule Bhagawa pomegranate variety released by MPKV, Rahuri on 1.20 ha. area. The technical information has been received through participation in activities of FSC, from scientists of MPKV and NRC for pomegranate. The pomegranate farm of this farmer is certified by EUREPGAP under the guidance of University scientists. He produced on an average 65 tonnes of pomegranate per ha. and realized a total

income of Rs.17.50 lakh (2006), Rs.31.90 lakh (2007) and Rs.37.20 lakh (2008) through pomegranate export to European countries. He received a market rate of Rs.70/Kg. He incurred an expenditure of Rs 3.00 lakh.

Apart from these examples, the innovative approach of Farmer-Scientist Forum has led to Farmer to Farmer extension and this market-led extension in FSF has helped in reduction in cost of cultivation and increased monetary returns through value addition and marketing. Some of the member farmers of FSCs have achieved outstanding awards at the national and state level.

Table 2. Expenditure and benefit of Chickpea Seed Village Programme during rabi 2007-08

Farmers code	Area (ha.)	Cost of cultivation (Rs.)	Raw seed yield (qtl.)	Processed seed yield (qtl.)	Non-processed seed (qtl.)	Rate of processed seed (Rs.)	Rate of Non-processed seed (Rs.)	Total amount (Rs.)	Benefit (Rs.)
A I	0.60	8560.00	11.80	9.60	2.03	3000.00	2000.00	32860.00	24300.00
A II	0.60	7500.00	10.46	8.10	2.21	3000.00	2000.00	28720.00	21220.00
A III	1.00	12650.00	13.49	10.50	2.80	3000.00	2000.00	37100.00	24450.00
A IV	0.80	10470.00	13.79	11.10	2.50	3000.00	2000.00	38300.00	27830.00
A V	0.60	7000.00	6.86	5.70	1.04	3000.00	2000.00	19180.00	12180.00
A VI	0.40	4840.00	4.47	3.90	0.62	3000.00	2000.00	12940.00	8100.00
A VII	0.30	3670.00	3.19	2.40	0.73	3000.00	2000.00	8660.00	4990.00
A VIII	0.20	2630.00	2.83	2.40	0.37	3000.00	2000.00	7940.00	5310.00
A IX	0.20	2500.00	3.18	2.40	0.72	3000.00	2000.00	8640.00	6140.00
A X	0.20	2600.00	3.53	2.70	0.77	3000.00	2000.00	9640.00	7040.00
A XI	1.60	20000.00	19.65	16.50	2.87	3000.00	2000.00	55240.00	35240.00
A XII	0.60	7000.00	8.44	7.50	0.81	3000.00	2000.00	24120.00	17120.00
Total	**7.10**	**89420.00**	**101.69**	**82.80**	**17.47**	**36000.00**	**24000.00**	**283340.00**	**193920.00**

Conclusion

The paper leads to conclude that the present extension system needs to be re-oriented from mere production-orientation to a more demand driven and market driven system to meet the challenges of agricultural development in general and improving livelihoods of the resource poor in particular. Hence, all the key players i.e. public institutions, private agencies and non-governmental organizations should make concrete efforts towards pluralistic partnership and convergence among them. In this line, the proposed paradigm of market-led extension system provides clear directions to all the stakeholders in agriculture development. Further, the concept of Farmer-Scientist Forum of MPKV has played a crucial role in promoting market-led extension.

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