Extension Strategies for Agriculture and Rural Development

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Foreword

Agriculture, which has been the key sector for Indian economy and rural prosperity, is going under serious threats nowadays in terms of dwindling land and water resources, rising the cost of cultivation, indebtedness, depleting nutrients base and production capacity of soils, ecological degradation and climate change. These issues required to be addressed by the policy makers and development planners for the welfare of burgeoning population. The desired inclusive growth rate in the field of agriculture is only possible if technology generation and dissemination system in agriculture would be accelerated by adopting suitable extension strategies. Therefore, there is need for appropriate National Policy for Extension in order to enhance the pace of agricultural and rural development process of the country.

The book “Extension Strategies for Agriculture and Rural Development” is a noble initiative taken by Dr. Ashok K. Singh, Professor of Extension Education who edited the important papers contributed by the esteemed personalities based on their rich experiences and successful endeavour, on the eve of Golden Jubilee Celebration of the extension discipline with the theme of Innovative Extension Strategies for Agricultural Development and Rural Prosperity held at historic campus of Pusa in Bihar.

I am fully confident that this book will provide valuable information pertaining to the several emerging issues related with crop productivity and quality management. Hope, the book will serve as source of reference for policy makers, development managers, scientist, teachers, students and extension workers who are involved in the area of agriculture and rural development.

G. Trivedi
Former Vice-Chancellor
Preface

During last fifty years, several alternative approaches of extension system are being attempted under various models *viz.*, KVKs, ATMA, IT enabled services, farmer’s empowerment, contractual arrangements, entrepreneurs/NGO driven extension system for enhancing the crop productivity and ultimate raising the socio-economic condition of the farming community. But, the astronomical rise in cost of cultivation, indebtedness and causes of farmer’s suicides compounded with dwindling land, labour and water resources, depleting nutrient base and soil fertility, lack of marketing avenues, escalating ecological degradation and ravaging climate change pose a serious threat to Indian Agriculture and Rural Prosperity. These emerging challenges call for introspection and revisit the whole concept, philosophy and methodologies of extension system under the changing global scenario. In this context, the discipline of extension education has crucial role to play in empowering and preparing the farmers and other stakeholders to overcome on these challenges by way of developing a synergistic and coherent pathways for enhancing crop productivity and providing livelihood opportunities to rural masses.

Since, the discipline has travelled a long way (more than fifty years of its existence) and it has always been involved in development of National Policy for agricultural technology development and its dissemination hence, as a part of Golden Jubilee Celebration of Extension Education, a National Seminar on the theme of “Innovative Extension Strategies for Agricultural Development and Rural Prosperity” was organized in the historic campus of Pusa (Samastipur), Bihar from December 18-20, 2008, in which more than two hundred eminent agricultural/social scientists, policy makers and stake holders were participated. The esteemed participants were also contributed their rich experiences in form of lead paper/views and research findings which were borne out from their systematic observations and interaction.
In order to brought these interactions to the galaxy of agricultural and social scientists involved in agricultural research and development a initiative has been taken to document the salient contribution of this event in the form of book. The book entitled “Extension Strategies for Agriculture and Rural Development” is a compendium of selected papers discussed on this occasion and it is divided into five sub-sections (i) Policy initiative in extension education (ii) Market-led extension and commercial farming (iii) ICT application and methodological advances in agriculture (iv) Entrepreneurship development and innovative approaches in extension and (v) Gender mainstreaming in farming system. The author wishes to express his sincere gratitude to all the esteemed participants and guest who contributed substantially on this occasion according to their own way. In this context, I have no words to express my deep sense of regards to Dr. Baldeo Singh, Jt.Director (Extension), IARI and Secretary, ISEE who kindly agreed and encouraged us to go ahead with this event at Pusa. I am also extremely grateful to Dr. G.Trivedi, Former Vice-Chancellor, RAU, Pusa for his encouragement and heartly support in organizing of this celebration. I am also thankful to other dignitaries like Dr. C. Prasad, Former DDG, ICAR and President VARDAN, Dr. R.P.Singh, Former Vice-Chancellor, MPUAT, Udaipur, Dr. R.P.Singh, Ex-Training Specialist, IARI and Dr. B.P. Sinha Ex-head (Agril.Ext.), IARI apart from our Hon'ble Vice-Chancellor Dr.M.L. Choudhary for their support and valuable contribution.

The management of the celebration required involvement of many stalwarts and agencies of our university and outside of this institution; I am extremely indebted to all of them. My thanks are also due to my wife and both of sons Manas and Annu for their delicate affection. Last but not least, I admire all the learned delegates/participants, scientist and workers who jointly made this National Seminar a grand success. At this juncture, I cannot forget the enthusiasm and support of Sri Anil Mittal, Daya Publishing House, New Delhi who kindly agreed to publish the selected deliberation of the seminar in form of this book.

Hope fully, this publication will prove useful for those researchers, social scientists, extension workers and policy makers who are engaged in advancement of agriculture and upliftment of farming community. The book will also serve as a guide to the policy planner and extension professionals who are interested in the area of agricultural development and rural prosperity.

Ashok K. Singh
Professor
Extension Education
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Introduction

Ashok K. Singh

The agriculture still continue to be known as the engine of the national prosperity and development. The rapid and balanced growth of agriculture is thus essential not only to achieve self-reliance at national level but also for household food security and to bring about equity in distribution of income and wealth resulting in rapid reduction in poverty among the rural poor. Although, the agriculture and its allied activities contribute nearly 25 per cent to the GDP of the country yet it faces a great challenge under the changing climate and economic scenario. The agricultural extension system, which was primarily, meant to transfer the new techniques, new knowledge and new technology from the research sector to the farmers has also undergone in considerable changes over several decades. Since, India has entered in the global market and signed WTO, hence farming community residing in rural villages need to be supported with information, knowledge and the skill to adopt improved technologies that would enhance productivity, employment opportunities and sustainability. Therefore, the ambit of agriculture extension has remarkably widened in the course of time and the onus of managing the complex affairs rests with agricultural scientist and extension specialist working with the farmers as per the requirement of the market. So, now it is imperative to design efficient, and location specific extension modules that would enable farmers and other stakeholders to reorient their action and thereby increase the profitability of their operation.

The state of Bihar, which is known as the motherland of agricultural research and education in the country. The state has also got the privilege to start Postgraduate
Teaching and Research in Extension Education, for the first time in India at Bihar Agricultural College, Sabour (Bhagalpur district) now, a constituent unit of Rajendra Agricultural University, Pusa (Samastipur), Bihar in the year 1955. The discipline of extension education gradually recognized as one of the three main functions of an Agricultural University System, the other two being teaching and research, and it spread in other parts of the country. Since, inception of the programme leading to Master’s Degree, submission of thesis based on systematic research pertaining to different facet of Agriculture and Rural Development was made an essential requirement for the award of degree. The research outcome in form of M.Sc. Thesis started to come out in the year 1957. Therefore, it is obvious that over a span of five decade Extension Education has played pioneer role for our agricultural and rural development process.

Although, half-century appraisal of extension efforts demonstrated that it paid rich dividends to the farmers in development, refinement and diffusion of technologies yet country is presently striving hard for inclusive growth rate in agricultural for the welfare of burgeoning population. In view of its historical importance, therefore it was thought appropriate and most proper to hold Golden Jubilee Celebration of the extension education discipline. Also, in a very humble way, a request was submitted to Indian Society of Extension Education, New Delhi to collaborate with its National Seminar on the occasion during the year 2007. Due to some unavoidable circumstances, the proposal was kept pending and in the year of 2008, the Indian Society of Extension Education, New Delhi is pleased to share the dais jointly with the Department of Extension Education, Rajendra Agricultural University, Pusa on the eve of Golden Jubilee Celebration of Extension Education discipline at the historic place of Pusa (Samastipur), in Bihar. Thus, it was really a opportune moment when ISEE and R.A.U, Pusa joined together in Golden Jubilee Celebration on this occasion and a National Seminar was hosted on the theme of “Innovative Extension Strategies for Agricultural Development and Rural Prosperity” during the December 18-20, 2008 in order to provide suitable plateform for extension professionals of country to meet, interact together and share their rich experiences for setting new millennium goal of extension.

The theme of the National Seminar has specific relevance as the state of Bihar has declared the year of 2008 as “Agriculture Year” and has also initiated many innovative efforts such as, Kisan Samman Yojna, Kisan Maha Panchayat and Vagyanike Gaon Ki Ore etc. for the welfare and upliftment of the farming community.

The National Seminar was inaugurated by Dr. M.L. Choudhary, Hon’ble Vice-Chancellor of Rajendra Agricultural University, Pusa while Dr. C. Prasad, Former, DDG (Extension), ICAR presided over the function, Dr. R.P. Singh, Former Vice-Chancellor of MPUAT, Udaipur, Dr. G. Trivedi, Former Vice-Chancellor of RAU, Pusa, Dr. R.P. Singh, Ex. Training Specialist, IARI, New Delhi, Dr. Baldeo Singh, Jt. Director and Secretary, Indian Society of Extension Education, Dr. Madan Singh, DEE, RAU Pusa and other dignitaries were present on the dais. The inaugural function of seminar was formally started with the “Saraswati Bandana” followed by floral welcome to all the esteemed guests present on the occasion. The sacred lamp was lighted by the
Chief Guest of this occasion with the help of dignitaries of the dais. Dr. Madan Singh, Director Extension Education delivered the welcome address. The Hon’ble Vice-Chancellor Dr. M.L. Choudhary released the Souvenir of the National Seminar published on this occasion.

Dr. Baldeo Singh presented a brief outline about the Indian Society of Extension Education and relevance of the National Seminar on the occasion of Golden Jubilee Celebration. Dr. R.P. Singh, former Vice-Chancellor MPUAT, Udaipur has stressed for the need of market led extension and demand driven extension approach for enhancing the profitability of the farmers. Dr. G. Trivedi highlighted about the need of closer linkages and interface with the farmers and extension functionaries while Dr. R.P. Singh, Ex-Training Specialist emphasized the need for appropriate training methodology in the complex diverse situation of farming. In his Presidential Address Dr. C. Prasad, former DDG and President, VARDAN stressed the need for paradigm shift in extension approaches by way of incorporating more social science dimension. Hon’ble Dr. M.L. Choudhary, Vice-Chancellor, RAU, Pusa in his inaugural address emphasized the need for suitable extension strategies and tools for promotion of agribusiness enterprises. He further said that extension should be viewed in a broader perspective to face the challenges and urged to the extension scientist for achieving the target of agricultural growth fixed by XIth Five Year Plan. The inaugural function was concluded with the vote of thanks proposed by Dr. K.R. Maurya, Dean, Agriculture, RAU, Pusa. The various technical sessions designed for the National Seminar were commenced after the lead paper presentation session, during the period of National Seminar.

Finally, a group of eminent extension scientists under the Chairmanship of Dr. G. Trivedi finalized various important recommendations on the basis of extensive discussion before the valedictory function of the seminar. The valedictory function of the Golden Jubilee Celebration and National Seminar was held on 20th December 2008. It started with the Welcome Song and floral welcome to Hon’ble Minister of Agriculture, Government of Bihar, Sri Nagmani Ji and Dr. V.V. Sadamate, Advisor (Agriculture), Planning Commission, Govt. of India who was the Guest of Honour on this auspicious occasion. After welcome address, the Hon’ble Vice-Chancellor Dr. M.L. Choudhary briefly discussed about the priority areas of extension in the context of the salient recommendations that were borne out from the deliberation of the National Seminar. The other important event took place during the valedictory session was the Award Ceremony which has been convened by Dr. Baldeo Singh, Secretary ISEE. The different awards constituted for the ISEE were distributed to the eligible extension scientist/professionals by the hands of Hon’ble Minister of Agriculture, Govt. of Bihar. On the occasion Dr. V.V. Sadamate in his keynote address spoken about the policy issues and framework under which extension activities has to be carried out for agricultural and rural development. He stressed for the need of appropriate extension reforms for revamping the present extension system. Finally, Hon’ble Minister of Agriculture, Govt. of Bihar Sri Nagmani Ji concluded the National Seminar with the urge for greater participation of farm community in the process of agricultural development. Dr. Ashok K. Singh, Professor and Organizing Secretary of
the National Seminar–2008 convened the entire proceeding of inaugural and valedictory functions of this occasion.

Recommendation

The salient recommendations which were emerged out of with the systematic deliberation during the National Seminar are given here as:

1. There is need for establishment of a Council for Transfer of Technology in Agriculture (COTTA) at the Centre by integrating the Directorate of Extension of the MOA and the Division of Extension of the ICAR.
2. There is need to develop a “Cadre” of Extension Education Services comprising both extension personnel as well as the Subject Matter Specialist.
3. The extension agencies, both public and private, should assess the information needs of agribusiness-oriented farmers and organize training for them.
4. The public extension service needs to be strengthened as per the demand driven extension. It should be reoriented as per the requirements of agri-business enterprises in order to maintain the quality and standard for export potential.
5. The private extension should be geared up to supplement the efforts of the public extension system towards the promotion of agri-business enterprises.
6. The different farmer’s organization and self help groups, specially the women’s SHGs should be encouraged to take up agri-business enterprises and its members should be trained with the desired knowledge and skills required for successful functioning of such enterprises.
7. The communication strategies have to be translated into practice at the field level for creating impact visibility and comprehensive field extension programmes.
8. Agri-business enterprise should be promoted by exploiting the agro-ecological diversity of the country. In this context, efforts should be made to promote the eco-friendly inputs of agriculture.
9. As several fruits and vegetables are available with us which has the export potential hence, there is need to develop a close linkages with farmers-agro-industries-consumer network. Also, it is required to produce export quality in order to capture the world market in WTO era.
10. As the high quality of agriculture produces fetch attractive prices in the metropolitan cities, the extension agencies should promote the Hi-Tech cultivation for sending the produce to the needy market in order to have maximum profitability out of them.
11. The small and marginal farming groups need to be encouraged by the development agencies to undertake farming system approach in order to make the farming more viable and generate additional self-employment. In this context, integrated farming system approach can become more attractive and sustainable for their livelihood.
12. The cooperative societies should be strengthened. They can work for promotion of different entrepreneurship in the area of soil testing, vermicomposting, dairy, and other agro-based allied activities.

13. The self-employment and entrepreneurship development are necessary to face the current changing agricultural crisis in rural areas; therefore area-region and location based planning may be designed for integrated development.

14. The village based market led agriculture extension approach for transfer of technology being carried out by IARI may be promoted and validated by other organizations and agencies.

15. The agricultural resource banks (seed, manure, fertilizer, energy, machineries etc.) may be created at the block and panchayat level for easy and timely availability of resource to the end users.

16. The farmer’s participatory technology development approach should be encouraged in research and extension programme for developing need based and demand driven technology in order to enhance productivity and improve livelihood.

17. The FEIPC (Farmer’s Entrepreneurship Institute and Public Chain) may be established for entrepreneurship development in the rural areas.

18. For holistic and sustainable development of agriculture, there is need for more operational research programmes in the rainfed/watershed, submerged, pond and draughts areas. Under these programmes farmers of the local areas should be involved in planning, implementation, monitoring and evaluation of the programmes.

19. There is need for strengthening of Kisan Call Center (KCC) and regular updating of agricultural database is needed for effective delivery mechanism.

20. Strengthening of Village Resource Center (VRC) is required as it serves single window delivery system for providing technology inputs and services to the rural population at the village level.

21. There is need for clear-cut application of the terminologies used in extension as; extension education; extension services, extension work and transfer of technology. The different organizations and institutions may work for which they are meant.

22. The SMS (Extension) in each KVK must take a micro-level empirical document about the institutional linkage. They must capture the process, outcome and bottlenecks of each technology, which is available in their location.

23. The successful experiences of contract farming by Pepsico in case of tomato growers of Punjab gives sufficient reason to replicate it for other crops like spices and potato.
24. The community radios may be popularized in rural areas whereby extension organizations can facilitate information sharing, capacity building and developmental communication. The extension policy may incorporate community radios as a viable extension method.

25. The knowledge and skill of multimedia tools and software’s should be imparted to the entrepreneurs. The increasing use of ICT may be useful for providing Internet connectivity in the village/clusters of villages to the Agri-business entrepreneurs.
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