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Popular Article

Extension Education: Myth or Reality

Samares Kumar Das[1*] and Hema Tripathi[2]

[1]Dept. of Veterinary and Animal Husbandry Extension, College of Veterinary Sciences and Animal Husbandry, Central Agricultural University, Selesih, Aizawl, Mizoram (796 014), India
[2]Krishi Vigyan Kendra (Farm Science Center), Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar Pradesh (243 122), India

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Correspondence to

E-mail: samcau.d1@gmail.com

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Abstract

Extension Education (popularly known as Agricultural Extension) is a science and art of 'helping people help themselves' in shaping their behavior in desirable direction based on the philosophy and principle of 'learning by doing' and 'seeing is believing'. There are several branches of Extension Education-veterinary and animal husbandry extension, fishery extension, home science extension, forestry extension, health extension and the like-depending on the field where the philosophy and principles of Extension Education is applied. As per the philosophy, an Extension Educator should be a teacher, guide, friend and philosopher to the villagers. But, there is a gap between the philosophy and practice, between what is and what ought to be. Mixed farming system based on the socio-economic and cultural considerations is the foundation of Indian agriculture. Under this traditional family farming system animal husbandry has a complementary and supplementary relationship with crop husbandry the significance of which is never realized in the practice of Extension Education. The crux of the problem lies in the practice of viewing crop and livestock separately at par with the western specialized farming. The tendency of perceiving Indian agriculture from the western perspective is not going to bring any desirable change in our countryside. It is high time to bring science down to the ploughman's doorstep to help him taking timely and wise decision to improve his farm and home in a sustainable manner. To achieve this we need a large number of philosophers in 'helping people help themselves' in shaping their behavior in desirable direction. This paper is an attempt towards that direction.

1. Introduction

Broadly education is of three types-formal education, non-formal education and informal education. 'Formal education' is institutionalized, chronologically graded and hierarchically structured from lower primary school to the university. 'Non-formal education', such as adult education, is carried out outside the framework of the formal educational system. 'Informal education' is the lifelong process by which an individual acquires and accumulates knowledge, attitudes, skills and insights from daily experiences. 'Extension Education' is a special type of non-formal out of school adult education through which adults and youths are educated how to live better by improving their farm and home bringing desirable changes in knowledge, attitude and skill.

The word extension is derived from two Latin words-*ex* meaning *out* and *tensio* meaning *stretching*. So, literally the word extension means *stretching out*. Though there are as many definitions of Extension Education as those who have defined it, the following comprehensive definition will serve the present purpose very well:

Extension Education is an applied behavioral science consisting of the contents derived from researches, accumulated field experiences and several other branches of social sciences, synthesized with useful technology into a body of knowledge, aimed at bringing desirable changes in an individual's behavior through out of school non-formal education in order to bring overall development in an individual, his family, his community and thereby his nation (J. Paul Leagans).

Besides practicing in the field as a profession, Extension Education is formally taught in agricultural and veterinary colleges and universities leading to the award of degrees. Apart from this, research is also carried out in Extension

Education. Hence, Extension Education is discipline as well. Extension Education is unique in terms of the application of knowledge of this discipline in transformation of the rural life. So, Extension Education is the science of developing capability of the people for sustainable improvement of their life (Dahama and Bhatnagar, 1985).

Originally applied to agricultural development Extension Education has come to be known as Agricultural Extension. But over the years several branches have come in vogue-veterinary and animal husbandry extension, fishery extension, home science extension, forestry extension, health extension and the like depending on the field where the philosophy and principle of Extension Education is applied.

Tracing back to origin and history this paper discusses the myths and realities of Extension Education examining the relevancy and utility of such Extension Education in agricultural and rural development of India. That the crux of the problem lies in the failure to perceive the role of Extension Education in agrarian economy of India is the central theme of this paper.

2. Origin and History

The term University Extension was first used in Britain during 1840s and the first practical initiatives were taken in 1867-68 when James Stuart of Trinity College, Cambridge, delivered lectures to women's associations and working men's clubs in England. Hence James Stuart is often regarded as the Father of University Extension. By the 1880s, the work was being referred to as the Extension Movement when the universities started to extend their functions beyond the campus. Later, Agricultural Extension came into vogue in the USA early in the 20th century when the Cooperative Extension Services were formed in each state in association with the Land Grant Colleges (van den Ban and Hawkins, 1998). In India the first agricultural university established (1960) on the pattern of Land Grant Colleges is G. B. Pant University of Agriculture and Technology, Pantnagar (Uttarakhand).

Since education is an integral part of extension which is pursued in agriculture and other disciplines, later it has come to be known as Extension Education. In India, Extension Education was included in under-graduate curriculum of agriculture during 1950s. The discipline of Extension Education gradually gained importance and consequently was introduced in other fields of agriculture, e.g. veterinary and animal husbandry, home science, fishery, forestry, etc. during 1960s. Various branches of Extension Education have appeared when Master's and Doctoral program was started to offer in the concerned discipline and profession. Indian Agricultural Research Institute (IARI), New Delhi was the first to launch PhD in 1958. The first professional society 'Indian Society of Extension Education' was established in 1964 at IARI, New Delhi that started publishing quarterly 'Indian Journal of Extension Education' in 1965. Perhaps, in 2001, for the first time in India Master's degree was awarded on Veterinary Extension Education by the Indian Veterinary Research Institute (IVRI), Izatnagar. Various branches of Extension Education seek to extend technical and scientific knowledge to the people who are to be educated along the lines of the innovations developed in the respective disciplines. However, philosophy and principles remain the same for all.

3. Extension Activities in India-Before and after Independence

In India, extension activities were started with the rural welfare efforts of some benevolent and philanthropic persons including a few government servants. Following are some of the early extension efforts worthwhile to mention (Dahama and Bhatnagar, 1985; Ray, 2008):

- Sir Daniel Hamilton's Model Village at Rangabelia village of Gosaba block in Sundarbans delta of West Bengal (1903).
- Rabindranath Tagore's efforts-youth organizations in Kaligram Pargana (1908) and Rural Reconstruction Institute at Sriniketan in collaboration with Elmhirst (1921).
- Welfare programs by Mahatma Gandhi-Sevagram Ashram in Mahrashtra, Sabarmati Ashram in Ahmedabad, etc. (1920s).
- Bhoodan and Shramdan movement by Acharya Vinoba Bhave.
- F. L. Brayne's experiment in Gurgaon with the concept of Village Guide (1920).
- Servants of India Society by Gopala Krishna Gokhale (1905).
- Indian Village Service (IVS) by Arther T. Mosher and B. N. Gupta (1945).
- Nilokheri Experiment by S. K. Dey.
- Marthandam Project by Dr. Spencer Hatch (1921).

This all was magnificent beginning, but was limited in scope, organization and lack of continuity. They were mainly isolated and confined to a small area without government assistance. Many were discontinued after a short while. But they created awareness for the need of rural reconstruction. A few of them contributed towards more comprehensive efforts of the later particularly Etawah Pilot Project of Albert Mayer (1948). It was the first comprehensive, well planned rural development project of Independent India and formed the basis of Community Development Program (CDP). Launched on 2nd October, 1952 as a part of the First Five-Year Plan, CDP heralded a new era of planned development. But, the philosophy and principle of Extension Education was hardly practiced (Dube, 1958).

4. Philosophy of Extension Education

Philosophy is the view of life and the whys and the wherefores of existence. It is also defined as moral wisdom. Philosophy of Extension Education is perceived by various authors in various ways. Following are the universally accepted philosophy of Extension Education (Dahama and Bhatnagar, 1985):

- Extension is a continuous educational process to bring desirable changes in knowledge, attitude and skill of the people.
- Extension is 'helping people to help themselves'.
- Extension is 'learning by doing' and 'seeing is believing'.
- Extension is development of individuals, their leaders, their society and their world as a whole.

The concept and philosophy of Extension Education can be better understood from the following:

"It is not man's technology or his physical resources alone but what he does with them that is of transcendent importance to his progress … Man makes progress on the basis of what he knows, what he thinks, what he can do, and what he actually does with his physical and human resources. What man does with his resources depends largely on the nature and extent of society's investment in his educational growth…Emerging from the acceptance of this idea is the concept of ways to help rural people learn to improve their level of living by aided self-help through education. This concept is commonly expressed by the term Extension Education…Extension Education is essentially a process of working with people, not for them; of helping people become self-reliant, not dependent on others; of making people the central actors in the drama, not stage hands or spectators; in short, helping people by means of education to put useful knowledge to work for them..." (Leagans, 1961ab)

5. Principles of Extension Education

A principle is a guideline for taking decision and action towards a desirable direction. A principle is a fundamental truth and an established rule of action. It is neither possible nor desirable to prepare an exhaustive list of extension principles. Following are the universally accepted principles of Extension Education (Dahama and Bhatnagar, 1985; Ray, 2008):

- People's interests and needs that can be fulfilled with the available resources.
- Organization and mobilization of people at grass root level.
- Cultural compatibility of the people with whom the work is to be done.
- People's participation in formulation and implementation of extension program.
- Applied science to translate the basic research (how does paddy grow) into an applied form (how to grow paddy).
- Judicial use of indigenous knowledge fortified with scientific knowledge.
- Democratic approach in planning and implementation of extension program.
- Principle of 'learning by doing' and 'seeing is believing'.
- Principle of training to help grass root extension worker to update his knowledge to perform the job better.
- Adaptability and flexibility in the use of extension teaching methods.
- Principle of leadership in the use of community leaders who are the guardians of the villagers.
- Principle of whole family approach because family is the basic primary unit of any society.
- Principle of satisfaction of the people in improving their farm and home through Extension Education.

6. Extension Education Process

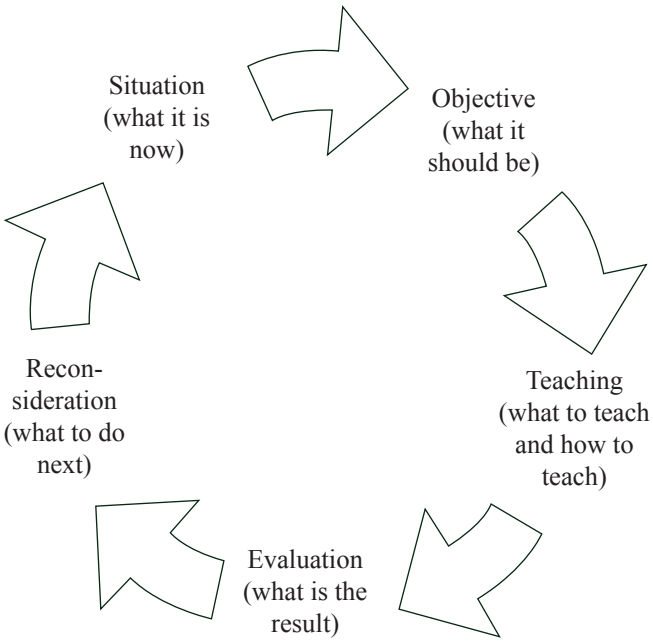
Extension Education is a never-ending continuous process which involves the following five sequential steps (Ray, 2008):

- Collection of facts, analysis of situation and identification of problem.
- Setting the objectives (identification of solution to the problem).
- Teaching (what should be taught and how) to solve the problem.
- Evaluation (determining the extent to which the objectives are fulfilled).
- Reconsideration of the program based on the findings of evaluation.

7. Extension Education as a Profession

Need for Extension Education arises out of the fact that there is a scope to improve the condition of people majority of whose occupation is farming. This can be achieved by the application of science in improving the methods of farming. But, the scientists are not in a position to persuade the people to adopt improved methods of farming. Similarly, it is difficult for the villagers to visit the research stations to obtain information on latest developments in farming. So, there is a need of an agency to act as liaison between the people and scientists. Here is the need of the profession of Extension Education (Das, 2006b).

Some authors relate philosophy of Extension Education with that of the *Veda* also. So, at one extreme following and practicing the philosophy of Extension Education actually corresponds to the practical *Vedanta*. However, this philosophy of Extension Education can only be practiced by a person who



Extension Education process

is a teacher, guide, friend and philosopher of the villagers. So, to perform the job of Extension Education a large number of philosophers are required. This is almost or nearly impossible. Therefore, the concepts like 'transfer of technology' (ToT), dissemination of information, and diffusion and adoption of innovation are used as synonyms of Extension Education.

Das and Galdhar (2007b) illustrated how an extension professional can do his best following the principle and philosophy of Extension Education in animal husbandry. However, in practice the philosophy and principles of Extension Education is sadly missing. In fact organizing a brain storming session, campaign, fair, show and exhibition or publication and distribution of literature as well as launching a mega project with unrealistic target exaggerated and colored with high rhetoric and doling out services and subsidy in each Five Year Plan is considered as Extension Education activities. Consequently, the true purpose of Extension Education for development is lost; even miserably fails to succeed in diffusion and adoption of innovation or popularly in 'transfer of technology'.

Let us consider 'de-worming' as an innovation (technology). Though the practice of de-worming is beneficial for health and productivity of animal, people are reluctant to adopt it. It is a fact that livestock production in India is a way of living. It is a traditional practice of rural people not a commercial venture. So, people are less concerned about the input-output of livestock production. Profit making is not a primary motive. Therefore, practice of de-worming is not at all attractive and useful for them. The reason is justified and simple-until and unless a farmer is engaged in commercial livestock production, the practice of de-worming is meaningless.

Similar explanation may be given in case of another livestock innovation-'vaccination'. Except cattle and buffalo (to some extent) in most of the cases vaccination is not practiced. There are reasons for this. In government animal health centers of rural India (particularly in West Bengal as experienced by the first author), there is a provision to provide free vaccination to duck and chicken. Since, an ampoule of Ranikhet or pox vaccine can be used for 100-200 birds at a time which can not be re-used, the Veterinary Surgeon generally decides to do the vaccination once or twice in a week so that a reasonable number of birds will be available to vaccinate. This schedule may not match with that of the local people.

Another reason is that duck and chicken is reared in backyard under free-range system with no external input. To get them vaccinated householders have to bring their flock at dispensary. It is not feasible for a householder to capture the birds and bring to the dispensary walking a mile or more wasting his valuable time which can otherwise be utilized for the purpose of earning a living. Since rural poultry production is a backyard non-commercial venture with zero external input lots of ampoules of vaccines remain unutilized at the dispensary (Das, 2010). Thus, most of the livestock technologies (urea-molasses mineral lick, urea-treated straw, silage, hay) recommended by R&D professionals have never been adopted by the farmers. Hence, it is recommended that there is a need of appropriate livestock extension policy. The diffusion and adoption of innovation in crop husbandry is better due to the presence of a better extension and support service (Chander et al., 2013).

8. Extension Education as an Academic Discipline

As a discipline Extension Education means teaching and research in the philosophy and methodology of extension to produce Extension Education professional for the advancement of science and society at large. The discipline of Extension Education as taught in the colleges and universities of India largely fails to uphold its credibility. One of the most important reasons is that related to syllabus which is not well thought out catering to the need of the society. Consequently, teaching is not effective and purposeful. Practical classes are not really practical because what a student learns in practical classes does not generally help him in a real life situation. Practical classes should create the situation to teach the skills required to solve a real life problem. Unless learners are able to relate theory with practice learning will remain incomplete. This observation is more or less applicable in Agricultural Extension as well as other branches of Extension Education, particularly Veterinary and Animal Husbandry Extension (Das, 2007a).

In case of animal husbandry extension, there is a dearth of good text book on the syllabus prescribed by the Veterinary Council

of India. There is a lack of purposeful syllabus, thereby a lack of good text book leading to ineffective teaching-learning-it is a vicious circle. In fact poor syllabus is the root cause from which many problems arise as a cascading effect. Educationists and policy makers concerned have to give a thought to it. They need to think in a novel and noble way. Syllabus should be need-based and designed in such a way that help a student to understand the theory behind the practical and to learn and acquire the attitude and aptitude necessary for applying the learned knowledge and skills to solve a real life problem.

As a social science, research in Extension Education also fails to live up to the expectation. It is not the quantitative or qualitative research that matters, but the ingenuity, conscientiousness and diligence of the researcher to observe and interpret the complex rural social phenomena with logical explanation. This is sadly missing in the present day research in extension science. With a zest to complete the projects within the stipulated time and due to a lack of scientific temperament research scholars in Extension Education study a particular aspect or a part of the problem without taking into account the broader context and greater consequences mainly based on the data obtained through the administration of an interview schedule or questionnaire to a sample of respondents selected as representative. Thus, research in Extension Education has been relegated to a mere "scientific rituals" devoid of insight, thought and utility. That short-term problem-oriented research devoid of genuine and greater purpose often miss some vital linkages and uniformities in the social process that have serious implications for the planning and implementation of any program of rural development has never been realized neither by the policy makers nor by the majority of the extension scientists.

9. Fallacy of Research and Extension

Research and extension is inseparable, they go hand-in-hand. Extension Education should start with the analysis of present situation, identifying people's interests and needs, deciding about objectives, finding out best course of action to meet the objectives, evaluating the results, and reconsideration. Principles of people's participation, leadership, trained specialist, applied science and democratic approach should be practiced throughout the process with education as means and ends. But in practice people's needs are rarely assessed, their participation is misrepresented, and principle of education and democratic approach is wrongly interpreted. Therefore, to make extension more participatory, bottom-up and need-based innovations like Agricultural Technology Management Agency (ATMA), Farmer's First (Chambers, 1983), and the like have been introduced without much headway. Let us discuss on this issue a bit elaborately.

Prior to the onset of 'Green Revolution' farming was traditional devoid of any synthetics. But, the new era of Green Revolution based on high yielding variety and high external-input has disorganized the traditional system of farming. Consequently, the domain of traditional knowledge system existing at local level has become cosmopolite leaving the farmers' future in the hands of researchers and 'extension workers'. Further, reckless use of pesticides and chemical fertilizers has resulted in loss of soil fertility, ground water pollution, disappearance of a number of organisms beneficial for soil health, and so on. While the nations which were practicing synthetic agriculture have turned back to the conservative farming and organic farming it is quite frustrating that 'political leaders' in India are still shouting the slogans for supplying subsidized chemical fertilizers and pesticides to the farmers. On the other hand, 'R&D professionals' have started to prescribe the concept of 'organic farming' and 'integrated farming' with gusto than ever before. But they should have recognized the scope and potential of such farming, which was the foundation of their countries' agriculture, before the others. The contribution of traditional knowledge to agricultural research and innovation can easily be understood from Rhoades (1989), while 'diffusion of innovation' in agriculture ultimately brings misery to the commons (Roling, 2006).

It is a matter of grave concern that agricultural universities in developing countries conduct a few genuine research to solve a real life problem of the farmers. All leave the actual solving of farmers' problems to someone else, and hence we hear of 'poor extension services' and 'backward farmers' (Rhoades, 1989). It is because of lack of knowledge about the farmer's world. Thus, research remains a mere blueprint replication of so-called research work carried out elsewhere which does nothing but adds to the list of publications for promotion. At present it has reached the status of 'academic and scientific ritual' with total loss of true spirit of science ignoring the need-based and problem-solving applied research. This practice has abandoned the original philosophy and principle of Extension Education 'to help people help themselves in shaping their behavior in desirable direction'.

Not only this, there are numerous problems associated with professionalism. Whatever the concept, theory and methodology developed many remain unseen and unheard by a large mass of professional. Even, if seen or heard, not read in many cases. Surprisingly, most of the R&D professionals in India are not well informed about the latest development in Extension Education (van den Ban, 2009). Except a few, even they have no clear idea about the very purpose of 'Extension Education'. They are not even a good listener and reader. They are hard-nosed professionals with a narrower view of their disciplines as well as the farmers' world. Therefore, it is

doubtful that 'extension workers' and 'knowledge managers' in particular and R&D professionals in general keep them up-to-date about the global development from the only source of journals and books published elsewhere in the world. Moreover, though knowledge is a click away, thanks to the Internet, many copyright information are not accessible at free of cost. In reality, there is much more serious problem associated with professional knowledge (Chambers, 1983).

Therefore, current trend of high professionalism and specialized disciplinary approach will not be of much help for India in improving the countryside. Mere funding a mega R&D project in African country or elsewhere, organizing workshops and conferences, publishing high quality valuable literature, book and journal may fulfill the need of the scientist, professional and academician, but not the farmers' for whose namesake all this efforts are made. Instead of much cautious, controlled and holistic approach the danger of professional bias or the so-called concept of 'ignorant farmers' creeps into the activity of research and extension.

A farmer does farming by virtue of his socio-economic and rural setting. He has nothing to do with the concept of extension, statistics of food-grain production, food security, or else. He always tries to do better in his farm, to develop his farm. Outsiders will help him then he will try to develop is not the right concept. Therefore, farmers and scientists have much to learn from each other, and particularly the latter have much to learn from farmers (Rhoades, 1989). Mere increase in production will not serve the purpose. It is an obsolete strategy not useful in the current scenario of global economy (Swanson, 2006).

Of course, there is a need to harness the power of ICT (information and communication technology). But to expect that farmers will visit 'information kiosk' to retrieve the information is a fallacy. Though there are convincing literatures on successful use of ICT at grass root level in India and other third world countries (Sood, 2001; OWSA/MSSRF, 2004; Saravanan, 2010) they are shrouded in the statistical figure which is a myth not a reality. ICT can be a promising tool of 'knowledge management' if used judiciously, but not for so-called ToT or diffusion of innovations among farming communities. This is a dangerous idea in extension. Rather, ICT can successfully be utilized in making the R&D professionals aware. International R&D organizations and funding agencies can play an important role towards that direction.

It is also not justifiable to consider farmers as the passive receivers of concepts and methods even in the name of 'farmer first' or 'putting the last first' approach. There is also no valid reason to view 'extension worker' as somebody who is isolated and alone unaffected by the social system to which he belongs. This mechanistic or robotic concept of extension workers as well as farmers is all pervasive. Therefore, there is a need to consider the role of human and social factors in this regard (Das 2006ab, 2007ab). Above all, an appropriate institutional and policy reform is required (Qamar, 2005; Roling, 2006; Swanson, 2006; Rivera and Sulaiman, 2009). Until and unless political leaders become aware and appropriate policy is taken no desirable mass impact is possible (Das and Tripathi, 2011).

10. Research and Extension in Animal Husbandry

There should be a comprehensive research and extension policy of a veterinary and animal husbandry (VAH) institute catering to the needs and aspirations of the local people. The policy should be decided involving stakeholders in letter and spirit. Research projects should be adventurous and challenging. Students are also required to be made aware of, involved and utilized in the R&D process to the best possible way. Following model may be followed by a VAH institute in its R&D endeavor:

Farmers' will actively participate in the identification and prioritization of their needs and problems facilitated by the department of Extension Education. Based on that a comprehensive R&D plan will be finalized jointly by the Extension Education and other departments where different aspects of farmers' problems will be dealt by different departments.

For example, livestock disease related problems may be solved by the Parasitology, Medicine, Gynecology, Public Health and Pharmacology department; feeds and feeding problems by the Livestock Production Management (LPM) and Nutrition department; Livestock Products Technology and LPM department may help in entrepreneurship development; Biochemistry and Physiology, Anatomy, and Pathology department may contribute by conducting supportive research which may be basic in nature. For instance, biochemical analysis may be done by the Biochemistry department; Pathology department may help in understanding the pathogenesis of the diseases of local importance, and the like.

Thus all the departments will take part in solving local problems offering necessary consultancy services, supplying required technical and material inputs, suggesting possible solutions and conducting applied as well as basic research to develop innovations in their respective fields of specialization. Keeping in view the traditional and rural ways of doing things research should strive to find out a solution utilizing locally available resources at the best possible way. The department of Extension Education will help in transfer of technology through appropriate and need-based Extension Education programs and in dissemination of useful information intervening in the local people's learning process with the help of appropriate

extension teaching methods.

It may be wrong to perceive that only Extension Education department is accountable and responsible for this. It is mandatory for every faculty member to devote a part of his time and effort in Extension Education. Unfortunately this has not been a practice at large. So there is a need of changing our attitude and perception towards Extension Education and our roles there in. Otherwise research will not help develop our rural societies because only applied research can not help. Extension of that applied research in farmers' situation is essential.

Extension scientists of a VAH institute may need to give training and consultancy services to the staff of government line departments and NGOs engaged in their routine Extension Education activities from time to time. In turn, extension educators may need their help in own departmental extension endeavors. However, it rarely happens in reality. What is needed is that of coordination of activities and efforts among the line departments, Krishi Vigyan Kendra (KVK), NGOs and the Extension Education department of the VAH institute. There is no alternative but to establish a healthy, friendly, cooperative, productive and fruitful inter-departmental relationship within and outside the veterinary institution.

11. Human Resources Development for Extension Education

Field level extension personnel should have a sound knowledge of the subject and a clear insight into the socio-economic and agro-ecological conditions of the locality. For higher level extension personnel (faculty, scientist, R&D professional) mere possessing a PhD degree is meaningless without scientific attitude and aptitude. Sound knowledge of the subject along with a scientific temperament is the desirable virtue of human resource. Most importantly, one has to come out of the influence of Eurocentric world view or western ways of looking into the things (Mukherjee, 2013). No program can help in rural development unless and until we develop ourselves to the desired level required to think of others, to do something for others. What we lack are motivation, imagination, vision, creativity, positive attitude, spirit of team work, optimism, pragmatism, courage, and confidence in carrying out an assignment very systematically and successfully. We lack scientific attitude and aptitude.

Since environment often plays a vital role in shaping one's behavior to a considerable extent, there is a need for change in human being around us, physical conditions, administration, work culture and so on. Certainly, change in the first will consequently bring changes in others. So, change in human behavior (knowledge, attitude and skill) is required in a desirable direction. A simple idea can change the world. Most of our conversations, time and energy should be utilized in wise, positive and creative thinking and talking of ourselves, our students regarding their teaching and overall development, and of research, extension and rural development; even when we are in highly informal and homogeneous groups.

We have to be realistic, unbiased and creative, and should nurture the philosophy of simple living high thinking. For this is to happen, we need a philosopher to help us in shaping our behavior in the desirable direction; to encourage, support and guide us in taking and implementing wise decisions; to direct us in choosing the right means to complete a right assignment successfully. We need a philosopher whose leadership will inspire us to take and perceive research and development as a challenge and adventure. And we need a philosopher to inspire, motivate, guide, support, instruct, direct and lead us towards achieving our goal of rural development through education, research and extension.

12. Conclusion

The philosophy and principle of Extension Education are like gospels of the Bible and *Banis* of the Geeta-preached by everybody but practiced by nobody. The vary purpose of Extension Education has been relegated to what is popularly called 'transfer of technology' and 'diffusion of innovation'. Indian agrarian economy is based on the mixed crop-livestock system which the R&D professionals have always been failed to realize. The problem lies on the very nature of perceiving crop and livestock as a separate entity at par with specialized industrial farming. This basic change in perception and action may bring prosperity in the countryman's life for whose namesake all R&D efforts are made. The tendency of viewing Indian farming system through the 'western window' will only widen the gap between the poor and rich and will make the situation worse than before. It is high time to make science 'everyman's science'. Science should be brought down to the ploughman's doorstep to help him taking timely and wise decision to improve his farm, home and community in a sustainable manner. To achieve this extension has to play the great role to say in the words of Swami Vivekananda:

"Why should not education go from door to door, say I. If a ploughman's boy cannot come to education, why not meet him at the plough, at the factory, just wherever he is? Go along with him, like his shadow".

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