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Developing Human Resource for Meeting Pulses Demand

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ABSTRACT

The pulses production has remained around 13-15 million tonnes while annual domestic demand has risen to 18-19 million tonnes. The projected pulse requirement by the year 2030 is estimated at about 32 million tonnes. Adoption of technological innovations in pulses and their importance in soil sustainability needs human resource development in the country. The human resource associated in pulses development is not enough competent in meeting the pulses demand causing heavy import of pulses in India. The vast populations of pulses growers can be excelled through systematic training and development approaches. The human resource in pulses development can be grouped broadly into pulse growers of marginal, small, and big farmers; change agents, subject matter specialist and master trainers. The curriculum on pulses trainings are not in need of present day filed situation therefore ineffective to these category of people. In the present scenario of communication technologies, the past approaches of training and development would not be appropriate and effective. Therefore, specific training and development modules are required for pulses growers, women farmers, trainers, rural entrepreneurs and input dealers. These modules will be effective to enhance knowledge and skills of pulses growers in the country. The paper deals with trainees, training curricula contents, training methods, trainers, farmers motives in pulses cultivation, multi media training approach, effective training plan and training modules in pulses development.

Indian farmers grow a variety of pulses throughout the year. The pulses production has remained around 13-15 million tonnes while annual domestic demand has risen to 18-19 million tonnes. The projected pulse requirement by the year 2030 is estimated at about 32 million tonnes. It requires an annual growth rate of 2.4 percent needs a paradigm shift. Among different pulses, chickpea, pigeonpea, black gram, green gram, lentil and fieldpea are the major ones. Although, pulses constitute a major source of protein in the predominately vegetarian diets their production has not shown a marked rise over the past two decades. The country has witnessed a decreasing trend in the per capita availability of pulses from 69 g in 1961 to 34 g in 2010. To meet the domestic demand, country has to import pulses to the tune of 3.0-4.0 million tons. The average productivity is quite low (585 kg/ha). To increase the area, production and productivity of pulses in the country several measures have been suggested and training to pulses growers can be one of them. An analysis on training and development scenario of country in pulses is as follows:

Trainees: It is the general perception that low quality human resource involved in growing pulses over the other cereals and cash crops. To achieve the mission of increase in area, production and productivity of pulses, the country will require dealing the following type of growers.

- Introduction of pulses in new niche area where traditionally not cultivated
- The farmers those discontinued the pulses cultivation
- The farmers are growing pulses but average pulses productivity is low
- The farmers grow pulses in a limited area for their home consumption
- The farmers those grow pulses for their home as wells as market

The pulses growers broadly categorized as marginal, small, medium, and big farmers under various agro-climatic regions in country. The socio-economic conditions of each category of farmers varied, therefore,

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level of knowledge; skills and resource availability differed. To convince the farmers, knowledge on technological information will not work under above scenario. Farmers also need training on socio- psychological aspects to remove the mental barriers for re-adoption of pulses. To convince the trainee, information on trainee perception is equally important. The training to each of pulses growers is not possible; therefore group approach of training to representative farmers may be followed. The training needs of various groups of farmers would be different and training programme designed and developed for one category may not be effective and useful to others. It is therefore necessary to assess the training need of trainee before developing the training programme/curriculum.

Training curricula contents: The pulses technologies available in the country broadly categorized into northwest plain zone, northeast plain zone, central zone, south zone and north hill zone. The varieties released and technological package developed for each of the agro-climatic region is different, similarly training curriculum will vary based on training need of trainee. The scientific information/ research findings are available mainly with research institutions. The information requires proper treatment to translate into educational message for effective communication to ultimate users. To do that each of available pulse technology must be accurately distinguished into knowledge, attitudes and skills (K-S-A) components. The time has come to reorient our focus from knowledge alone to skills and attitude development. The information on pulses is input based. Such scientific information will only be operationalised on availability of inputs. The seed is the most critical input in the present context. Therefore, decision on training content must have baseline information on status of inputs and resources available in the trainee/farmers' locality. Otherwise what is taught to trainees will not be relevant to their work situation.

Training methods: The training should not be conventional type, where one person speaks and others listen. It should be more interactive where every participant gets an opportunity to come and express himself. Each of participants must believe that he is the best and can cross any barriers on his way to success. Training methodology in extension during past fifty years remained confined to delivery of technical knowledge/ skills. These methods were through lectures, workshops, organization of demonstration plot, skill demonstration in farmers fair, exhibitions, field visits *etc*. (Mishra; 1990). Training concept was brought in agriculture to update knowledge of master trainers and extension agents. Commonly, classroom training is organized for master trainers where lectures are delivered followed by questions and answers. The extension literature is supplemented with lecture. More information is given in limited time. To make training interactive, learning based innovative methods must be practiced. The photo in operation (video technology) over still photograph of mini *dal* mill had better impact on learners in a meet at IIPR, Kanpur. Lecture with flip chart and slides + discussion forum, lecture with slides + discussion forum, lecture with flip chart + discussion forum were found effective in terms of knowledge gain among cut flower growers (Karthikeyan et al; 2007).

Trainers: The trainers in pulses development in the country are scientists/experts at agricultural research institutions and Universities, subject matter specialists at Krishi Vigyan Kendra and State Department of Agriculture, extension agents/*para* extension workers at grass root level, personnel from Non- Government Organizations and private sector functionaries. The experts are specialized in specific fields of agricultural branches. A line approach from top to bottom exists in percolating the messages vis-à-vis problems. The HRD efforts in pulses should target and critically analyze the problems and prospects of these personnel. The experiences of master trainees on pulses showed that the trained staff transferred to places where pulses were not the major crops. They can not ultimately utilize the gained knowledge in trainings.

The pulses scientists/experts perceive that transfer of technology (TOT) is not their job and they are responsible for generation of technology/information. The TOT wing of research and development institutions should look after the TOT job. This attitude affects their performance as trainer. The experts also perceive that giving room to trainee in discussion is inviting trouble. It might be due to fear in answering the questions. These experts are also not enough competent in techniques of transferring their own technology to various categories of trainees. Similar content and methodology is adopted in all categories of trainee. Lack of clear concept about training and wrong attitude of the trainers affect their performance. Convincing farmers is not an easy task. Extension agents must have practical or behavioural training so that they can demonstrate the practice and tell in talkative manner the details. A trainer must have regular field visit to gain experience what skill really a farmer needed and what he perceives about any innovation.

Effective approaches for pulses training module:

Consideration of farmers' motives: Motivations can play an important role in mobilizing pulse growers to follow improved pulse cultivation. Farmers have different motives behind pulses cultivation. The level of motivation for various categories of farmer differed. Generally economic motives in Indian condition dominate over the others. The knowledge of farmers' motives can help in developing and delivering educational instructions. A pulse grower may have the following motives:

1. Economic: To provide better food, clothing, and education to children, freedom from debt
2. Soil health motives: Adoption of pulses will improve soil fertility
3. Cost benefit: Better economic returns from pulses
4. Risk taking ability: High or low
5. Consumption motives: To fulfill the pulses requirement of family
6. Health consciousness motives: Consume adequate pulses for protein requirement
7. National welfare: To make country self sufficient in pulses
8. Innovative: To explore new ideas and adventures in pulses cultivation
9. Self-achievement: To make best use of ones ability
10. Prestige: To be best pulses grower in village/locality
11. Other motives- Wood for thatching, fuel and feed/ fodder

Multi media training approach: Classroom training, chalk and talk method are outdated now. There is need for attitudinal change. The advances in technology have brought revolution in the field of communication. Community radio, audio-video compact disk, dish and cable television, computers and internet have their reach to farmers in villages. Trainers for faster dissemination of technologies can effectively utilize these media. Media based learning requires systematic organization of need based pulses content convenient for learners. The role of trainer in media based training will be of a facilitator, consultant, counselor, and manager by providing learning contents. Media based training demands infusion of training principles and instructional technology. Well-designed media and support materials replace face-to-face teaching. Pre-recorded expert's message will required to be developed on pulses technologies for various categories of users. Farmers' reactions, questions and answers can be added. The facilities of recording, editing and use can be developed or to make media facilities functional, the service of hired experts can be utilized.

Effective training plan: The training plan for each of the crop categories varies. To realize the benefit of training and development in pulses specific training plan can be developed for each of agro-climatic zone of India. The training plan must highlight the following dimensions:

1. Analyzing felt/unfelt training need and input/resource availability
2. Analysis of knowledge and skills of trainees
3. Analysis of perception and attitude of trainees
4. Strategy to eliminate negative perception/attitude of trainee
5. Delineation of knowledge, skill, attitude (K-S-A) part of technology
6. Treatment of latest research findings into educational message
7. Check list of what required and what not
8. Competence of trainer in delivering the oral information
9. Trainers' competency in message designing for print media and electronic media.
10. Methodology for assessing effectiveness of training programme
11. Follow up of training programme and impact studies

Training modules in pulses development:

A module is a self-contained component of a system, which has a well-defined interface to the other components; once the module exists, it can easily be connected to or disconnected from the system. Effective training modules can be meticulously developed to enable the stakeholders to follow right practice. The messages can be designed and developed by careful analysis. The existing general training module for all categories of personnel is an ineffective exercise. Training module for various categories of personnel in pulses development can be designed and developed as follows.

Training module for trainer

The training module for training managers, supervisors, subject matter specialists, extension agents, and NGO functionary on pulses can be worked out. The module covering the aspects of pulses production, protection,

processing, storage and value addition will be most suitable for these functionaries. The information of this module is to be more technical over the others. The trainer can be trained as in-service and refresher courses to update the knowledge and skills. Their knowledge can also be improved on training methodology to communicate effectively the messages to clients.

Training module for pulse growers

The specific training module targeting the pulses growers on importance of pulses in their cropping system, production of improved pulses technologies, integrated pest and diseases management, and seed production technologies will work. The recent innovations in pulses are system-based, such as integrated pest and diseases management (IPDM). There is need to organize farmers training courses that would increase technical and managerial skills. Farmers can be registered to learn pulses technologies and message can be delivered with collaborative approach. They can be examined and provided certificate at the end of the course.

Training module for women farmers

Women play important role in processing, storage and value addition aspects of pulses in the country. The decision on pulses consumption also took by them. Generally they lacked access to pulses technologies and importance to nutritional security. Women can take enterprises on value addition of pulses that will require entrepreneurial trainings. The training module must look at the socio-psychological, cultural and situational context of women farmers. Studies indicated that farmwomen prefer venue/site of training close to the village and male/female trainers from the developmental block or state agricultural university and group size of 15—20 (Dhingra; 1992).

Training module for rural youths

The studies have shown that agricultural employment can be generated for rural youth by providing entrepreneurial trainings like village seed production programme, bio-fertilizers and pesticides, processing and marketing of pulses products. Looking at the background of rural youth, the knowledge and skills can be enhanced and entrepreneurial qualities can be improved. Proper follow up action would be more necessity for this module.

Training module for input dealers

Besides public sector extension functionaries, large number of traders and retailers of seed, fertilizer and pesticide from private sector have close tie with pulses growers. They supply their products and operational details to utilize them. These agents are not competent enough in technological aspect. To provide valuable extension services, these functionaries must know about relevant innovation in pulses. Training module highlighting input based pulses information i.e. herbicide, role of micronutrient, foliar spray of urea, bio-fertilizers, bio-pesticides etc would be more effective.

CONCLUSION

The mission mode objective to increase area, production and productivity can be achieved through effective approaches of training and development in the country. The training and development programme in pulses can be effectively designed and developed considering the facts highlighted in the article. The appropriate module for various categories of personnel can be designed and developed.

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