 J Agri Sci, 3(2): 103-112 (2012)

Training Needs of Farmers and Rural Youth: An Analysis of Manipur State, India

M. V. Sajeev[1], A.K. Singha[2] and V. Venkatasubramanian[3]

Zonal Project Directorate, Zone – III, ICAR Research Complex for NEH Region, Umiam, Meghalaya 793 103, India
[3]Division of Agricultural Extension, ICAR, New Delhi 110012, India
E-mail: [1] <sajeevmv@yahoo.co.in>, [2]<arunkumar_singha@yahoo.co.in>;
[3]<vvsmn@yahoo.com>

KEYWORDS Capacity Building. Manipur. Farmers. Rural Youth. KVKs. Training Needs

ABSTRACT Krishi Vigyan Kendras (KVKs) conduct a variety of trainings for the benefit of farmers and rural youth in each district. KVK training programme starts with identification of training needs, the most important step in organization of any training programme. The present study on training needs analysis of the farmers and rural youths was conducted by the Zonal Project Directorate (Zone III) under Indian Council of Agricultural Research (ICAR) in collaboration with the KVKs in Manipur State. A list of 11 major components/ thematic areas was prepared. Under each major component, specific and relevant training need items were collected and systematically incorporated in to the interview schedule and administered. The results revealed that even in the most popular areas of training, there was an inadequacy. Farmers sought maximum trainings on integrated farming systems, integrated pest and disease management and technologies for soil and water conservation. Nursery management topped the list under horticulture while training with respect to rearing of piggery was the most important one under animal sciences. Income generating activities for empowerment of rural women, formation and maintenance of SHGs and training on small scale processing and value addition were also in high demand. The KVKs have to re-orient their trainings based on these findings to reduce the existing technological and adoption gap among the farmers in Manipur.

INTRODUCTION

Training plays an important role in the advancement of human performance in a given situation. Training provides a systematic improvement of knowledge and skills which in turn helps the trainees to function effectively and efficiently in their given task on completion of the training. Training is a process of acquisition of new skills, attitude and knowledge in the context of preparing for entry into a vocation or improving ones productivity in an organization or enterprise. Effective training requires a clear picture of how the trainees will need to use information after training in place of local practices what they have adopted before in their situation. Lynton and Pareek (1990) stated that training consists largely of well organized opportunities for participants to acquire necessary understanding and skill. Farmer training is directed towards improving their job efficiency in farming. The kind of education we call as training is not for knowing more but behaving differently.

Farmer training is education that most often takes place outside formal learning institutions. It differs from education in schools because it is geared towards adult learning. Lindeman (1926) laid the foundation for a systematic theory about adult learning (Knowles et al. 2005), noting that the approach to adult education will be via the route of situations, not subjects. In conventional education the student is required to adjust himself to an established curriculum; in adult education the curriculum is built around the students' needs and interests.

While the field of adult learning was pioneered by Knowles (Knowles et al. 2005), Stephen (2000), noted that, an effective training effort involves understanding how adults learn best. Compared to children and teens, adults have special needs and requirements as learners. Subject matter is brought into the situation, is put to work, when needed. Learners' experience is the resource of highest value in adult education. Too much of learning consists of vicarious substitution of someone else's experience and knowledge. Experience is the adult learners' living textbook. According to Holton

Address for correspondence:
Dr. M. V. Sajeev
Scientist (Agricultural Extension)
Zonal Project Directorate,
Zone – III, ICAR Research
Complex for NEH Region,
Umiam, Meghalaya 793 103, India
E-mail sajeevmv@yahoo.co.in

(1996), experiential learning approaches have the dual benefit of appealing to the adult learners experience base as well as increasing the likelihood of performance change after training.

Training needs assessment is one of the crucial steps towards identifying the area of farmers' interest, design and development of curriculum that can best suit to the existing real conditions of farmers. Pholonngoe and Richard (1995) underscored the necessity of need assessment while stating that if non-formal education trainers hope to foster meaningful development, they should bear in mind that the needs of adults constantly change. Thus, training assessment has to be carried out to design relevant and need-based training programmes that can accommodate changes over time. Barbazett (2006), noted that before any actual training is conducted, the training institution must determine the who, what, when, where, why and how of training.

Some changes are achievable using a training intervention, others are not. Some changes are more critical than others. Training needs assessment process helps determine the priority of changes in knowledge, skill, attitude and behavior that will provide the greatest impact on achieving organizational or individual goals. Caffarela (2002) noted that a systematic process of farmers' training must include; needs assessment, goal and objectives setting, organizing instructional methods and techniques, monitoring and evaluation. In some cases, however, we lack the knowledge, skills, or tools to conduct an effective assessment or we are confused about which approach to use, given the wide array of choices.

How often the needs assessment process should be repeated is a difficult question to answer. Conducting training needs assessments is an exhaustive, time - consuming, and expensive process that yields tremendously important data. Training needs identification is possible through different analytical procedures (McGhee and Thayer 1961). The possible methods or techniques for individual analysis include performance appraisal, interviews, questionnaires, tests, analysis of behaviour, informal talks, checklist, counseling, critical incidents, recording, surveys, and observations.

Training is a circular process that begins with needs identification and after a number of steps ends with evaluation of the training activity. A change or deficiency in any step of the training process affects the whole system. Designing a training and development program involves a sequence of steps that can be grouped into five phases: needs assessment, instructional objectives, design, implementation and evaluation. To be effective and efficient, all training programs must start with a needs assessment (Wentling 1992).

In so far as enterprise training provides management support and commercial awareness, it affords small farmers a better understanding of their opportunities and how they might be managed (Davis et al. 2007). Chipeta et al. (2008) supported this, noting that a lack of commercial and market awareness was a major barrier to achieving market success among rural producers, and emphasizing that extension or advisory services targeted at rural smallholders should therefore include marketing and business advice and understanding of agricultural value chains, in addition to technical knowledge. Furthermore, enterprise training can help smallholders to introduce progressive production techniques. Davis and Rylance (2005) suggested that training focused on enterprise skills, such as market analysis, distribution and business management, would support small-scale farmers in identifying the technologies that would benefit them most, and would help them to participate in agricultural innovation.

In India, KVKs conducted trainings at various levels for which the programmes are designed based on the clientele problems and their needs and interests. Normally KVKs have the following types of trainings conducted by them (Venkatasubramanian et al. 2009a):

1. Training for farmers (On and Off Campus)
2. Training for rural youth (On and Off Campus)
3. Training for extension personnel (On and Off Campus)
4. Sponsored training programmes (On and Off Campus)
   - For farmers, rural youth and extension personnel
5. Vocational training programmes (On and Off Campus)
   - For farmers and rural youth

Based on duration, the KVK trainings can be classified to:

1. Short duration trainings (1-7 days) and
2. Medium duration trainings (8-14 days) and

3. Long duration trainings (3-4 weeks)

As systematic procedure for planning and implementation of training programme, KVKs in general starts with identification of training needs of farmers/rural youth/extension personnel, and hence becomes the most important step in any training programme by KVKs. KVK scientists, as mandatory have to communicate the research findings, new innovations and technologies to the farmers and needy people (Venkatasubramanian et al. 2009b). It involves conducting On Farm Trials (OFTs) and Front Line Demonstrations (FLDs) of the new technologies as well as imparting training to the technology users for acquiring knowledge and skills on recommended technologies. Therefore, KVK training is an essential component for the successful dissemination and large scale adoption of latest agricultural technologies in a social system particularly among farming communities.

METHODOLOGY

Locale, Survey Instrument and Data Collection

The present study on training needs analysis of the farmers and rural youths was conducted by the Zonal Project Directorate (Zone III) in collaboration with the KVKs in Manipur. The study covered 5 rural Districts of Manipur (Table 1) which were purposively selected based on following criteria:

- The identified districts could represent all the agro-climatic zones (Table 2) of the region
- Major hills and plain farming systems of the region were found in these selected districts
- Krishi Vigyan Kendras are in existence in the districts with full staff for atleast three years, serving for the farming community in their respective districts
- The districts were selected considering the production potentials in diversified farming and enterprises.

From each selected district, four villages based on production potential of the different farming system were drawn up for inclusion in the present study. On consultation with the extension functionaries of state agricultural department, local leaders as well as KVK staff, a list of farmers representing different categories was prepared for each village. From the individual list of farmers from selected village, five farmer respondents were randomly selected which made twenty farmers from each district. Thus, a total of 100 farmer respondents were finally selected for data collection from 5 districts of the state.

Table 1: Distribution of selected districts under study

State	*No. of KVKs*	*Name of the districts*
Manipur	5	Imphal East, Churachandpur, Thoubal, Senapati, Bishnupur
Total number of districts selected:	5	
Total number of farmers interviewed:	100	

Table 2: Agro-climatic zone wise coverage of the selected districts in Manipur

Agro-climatic zone	*Districts*
Sub tropical plain (400-1000 MSL)	Imphal East, Bishnupur, Senapati, Thoubal.
Mild tropical hills (200-800 MSL)	Churachandpur.

Data collection from randomly selected respondents was made by using pre-tested 'structured schedule' through personal interview method. For this purpose, an interview schedule was constructed for data collection from respondents in the light of the objectives of the study. The selected respondents were personally interviewed at their place of residence/ field by the investigators and their responses were recorded in the schedule. Utmost care was taken to make the respondents to understand about the objectives of the study and clarified their doubts in the interview schedule.

For the present study, a list of 11 major components/ thematic areas was prepared. Under each major component, specific and relevant training need items were collected through different review of literature, discussion with state extension functionaries, KVK staff as well as investigators own field experiences and were systematically incorporated in the interview schedule. The schedules were administered to the indented respondents for data collection. In this regard, the farmers were requested to give a tick (“) in one of the three response categories (viz. Very Important, Important and Not Important) provided against the identified specific

items under each major component based on their perceived needs for providing training to them for further improvement in their farming system and livelihood.

The major training needs components identified for the study were crop production, plant protection, soil health and fertility management, agro forestry, horticulture (vegetables, fruits, ornamental plants, plantation crops, tubers, spices, medicinal and aromatic plants), animal husbandry, fisheries, on farm production of inputs, home science/women empowerment, agricultural engineering, capacity building and group dynamics and vocational training for rural youth.

Data Analysis

The farmer's responses were collected in a 3 – point continuum scale as Very Important (VI), Important (I) and Not Important (NI) by assigning scores 3, 2 and 1 respectively.

Option (Response category)	*Score*
Very Important (VI)	3
Important (I)	2
Not Important (NI)	1

The results were calculated as weighted score for each of the thrust area identified for the training

$$\text{Weighted Score (WS)} = \frac{(\text{No. of VI} \times 3) + (\text{No. of I} \times 2) + (\text{No. of NI} \times 1)}{\text{Total No. of VI + I + NI}}$$

Example: Out of total 20 farmers in the district A, 8 farmers marks thrust area X as very important, 5 marks as important and 7 marks as not important then WS will be

$$WS = \frac{(8 \times 3)+(5x2)+(7 \times 1)}{8+5+7} = 24+10+4+3/20=41/20=\mathbf{2.05}$$

Weighted Score will be ranging from 1 to 3. that is,

- If all the selected farmers in a particular district marks that thrust area X is very important, then the WS will be 3.
- If all the selected farmers in a particular district marks that thrust area X is not important/ no response, then the WS will be 1.
- If all the selected farmers in a particular district marks that thrust area X is important, then the WS will be 2.
- If majority of the famers are marking that thrust area X is very important and important, the WS will be in between the range of 2 – 3
- If majority of the famers are marking that thrust area X is not important, the WS will be in between the range of 1 – 2

Weighted scores in the range of 2 – 3 were ranked within each discipline and the first five rankings were identified as training needs of the farmers of the state. On perusal of the table, it might be noted that some of the training needs are not high at state level; however, the same may be important at the district level.

RESULTS AND DISCUSSION

The district-wise training needs of the farmers and rural youth are presented in the form of weighted scores in the Tables 3 – 7. Weighted scores in the range of 2 – 3 were ranked within each discipline and the first five rankings were identified as training needs of the farmers of the state. The following are the thematic areas where there are high training needs among the farmers of Manipur.

a. Training Needs of Farmers

Crop Production

Training on weed management was the most sought after by farmers (49%) in Manipur followed by water management and integrated farming (42% and 40%) of the field crops and training on seed production (Table 3). Training on resource conservation technologies in field crops, training on cropping systems and integrated crop management also closely followed. Weeds are often recognized as the principal biotic constraint to organic crop production. This is more pronounced in hill areas of the N.E Region particularly in field crops. Development of suitable weed control measures through integrated weed management practices is, therefore, a prerequisite for profitable farming in the region and well understood by farmers.

Plant Protection

Training on integrated pest and disease management of the crops was the most important (66%) need in plant protection followed by con-

trol of pest and disease by use of biological agents (Table 3). This is attributed to the fact that farmers in valley areas of Manipur resort to over adoption of fertilizers and pesticides/fungicides. Impact of over adoption of those chemicals in the long run is ignored by them. With KVK interventions through extension activities, farmers in the study area have realized the importance of integrated pest management in agriculture for sustainable production and development.

Soil Health and Fertility Management

It is observed from Table 3 that under soil health and fertility management, over half of the respondents had expressed their needs for skill oriented trainings on technologies for management of soil fertility (60%) and soil and water conservation (56%) respectively (Table 3). These were subsequently followed by integrated nutrient management, field based soil and water testing kits and production and use of organic inputs to improve the soil fertility. This is probably due to the reason that continuous adoption of unscientific methods of hill farming coupled with injudicious use of chemical fertilizers has lead to soil degradation particularly in hill districts of the state. This calls for immediate control measures and proper management practices against further degradation of soil fertility.

Horticultural Sector

With regard to horticultural sector (Table 4), the study reveals that training needs on cultivation of off season vegetables under vegetable sector emerged the most important with nearly half of the respondents (49%) had expressed

Table 3: Weighted Score (1 – 3 Scale) and Rank of the training needs of farmers of Manipur in the disciplines of Crop Production, Plant Protection, Soil Health and Fertility Management and Agro forestry

Thematic area	*Manipur (n = 100)*					*Imphal east*	*Churachandpur*	*Thoubal*	*Senapati*	*Bishnupur*
	VI	*I*	*NI*	*WS*	*Rank*	*WS*	*WS*	*WS*	*WS*	*WS*
Crop Production										
Weed management	49	25	26	2.23	1	2.20	2.70	1.80	2.65	1.80
Resource conservation technologies	37	24	39	1.98		2.30	2.25	2.05	2.20	1.10
Cropping systems	29	38	33	1.96		1.90	2.35	2.20	1.95	1.40
Crop diversification	25	30	45	1.80		1.65	2.20	1.75	2.10	1.30
Integrated farming	40	39	21	2.19	2	2.55	2.15	2.45	2.25	1.55
Water management	42	35	23	2.19	2	2.50	2.40	2.40	2.25	1.40
Seed production	40	26	34	2.06	4	1.95	2.25	2.20	2.30	1.60
Nursery management	27	37	36	1.91		1.80	2.30	2.15	1.95	1.35
Integrated crop management	30	35	35	1.95		2.00	1.95	2.25	2.20	1.35
Fodder production	12	27	61	1.51		1.40	1.60	1.40	2.15	1.00
Production of organic inputs	17	26	57	1.60		1.45	1.70	1.75	1.95	1.15
Plant Protection										
Integrated pest management	65	18	17	2.48	1	2.75	2.65	2.70	2.35	1.95
Integrated disease management	66	15	19	2.47	2	2.65	2.75	2.65	2.65	1.65
Bio-control of pests and diseases	33	41	26	2.07	3	2.10	2.55	2.35	1.90	1.45
Production of bio control agents and bio pesticides	18	34	48	1.70		1.60	2.30	1.50	1.85	1.25
Soil Health and Fertility Management										
Soil fertility management	60	22	18	2.42	1	2.30	2.90	2.55	2.80	1.55
Soil and water conservation	56	25	19	2.37	2	2.80	2.80	2.35	2.65	1.25
Integrated nutrient management	50	21	29	2.21	3	2.25	2.75	2.65	2.40	1.00
Production and use of organic inputs	33	35	32	2.01	5	2.20	2.40	1.90	2.50	1.05
Management of problematic soils	24	31	45	1.79		1.50	2.20	1.90	2.25	1.10
Micro nutrient deficiency in crops	30	27	43	1.87		1.75	2.20	2.10	2.25	1.05
Nutrient use efficiency	29	28	43	1.86		1.70	2.20	1.85	2.40	1.15
Soil and water testing	38	29	33	2.05	4	2.25	2.15	1.90	2.30	1.65
Agro Forestry										
Production technologies	28	28	44	1.84		1.80	1.85	1.75	2.80	1.00
Nursery management	20	38	42	1.78		1.65	1.95	1.75	2.50	1.05
Integrated farming systems	31	31	38	1.93		1.85	2.25	1.90	2.50	1.15

Table 4: Weighted Score (1 – 3 Scale) and rank of the training needs of farmers of Manipur in the discipline of Horticulture

Thematic area	*Manipur (n = 100)*					*Imphal east*	*Churachandpur*	*Thoubal*	*Senapati*	*Bishnupur*
	VI	*I*	*NI*	*WS*	*Rank*	*WS*	*WS*	*WS*	*WS*	*WS*
Vegetable Crops										
Production of low volume and high value crops	45	24	31	2.14	2	2.10	2.30	2.40	2.50	1.40
Off-season vegetables	49	28	23	2.26	1	2.15	2.45	2.55	2.30	1.85
Nursery raising	35	31	34	2.01	3	2.20	2.45	1.95	2.25	1.20
Exotic vegetables like broccoli	19	25	56	1.63		1.45	2.25	1.65	1.60	1.20
Export potential vegetables	10	21	69	1.41		1.10	1.50	1.50	1.75	1.20
Grading and standardization	10	25	65	1.45		1.00	1.35	1.70	1.90	1.30
Protective cultivation (green houses, shade net)	19	27	54	1.65		1.55	1.45	1.90	2.00	1.35
Fruits										
Training and pruning	23	24	53	1.70		1.75	1.75	1.65	2.30	1.05
Layout and management of orchards	10	22	68	1.42		1.05	1.65	1.10	2.15	1.15
Cultivation of fruit	26	28	46	1.80		1.35	2.15	1.75	2.60	1.15
Management of young plants/orchards	10	32	58	1.52		1.20	1.60	1.45	2.10	1.25
Rejuvenation of old orchards	14	18	68	1.46		1.00	1.80	1.45	2.00	1.05
Export potential fruits	12	14	74	1.38		1.25	1.20	1.50	1.95	1.00
Micro irrigation systems of orchards	9	24	67	1.42		1.15	1.45	1.45	1.90	1.15
Plant propagation techniques	30	27	43	1.87		1.70	2.20	1.75	2.30	1.40
Ornamental Plants										
Nursery management	21	24	55	1.66		1.70	2.20	1.90	1.45	1.05
Management of potted plants	9	25	66	1.43		1.55	1.80	1.70	1.10	1.00
Export potential of ornamental plants	6	7	87	1.19		1.20	1.50	1.20	1.05	1.00
Propagation techniques of ornamental plants	19	16	65	1.54		1.25	2.40	1.70	1.15	1.20
Plantation Crop										
Production and management technology	18	26	56	1.62		1.85	2.10	1.65	1.15	1.35
Processing and value addition	19	26	55	1.64		1.95	2.10	1.65	1.20	1.30
Tuber Crops										
Production and management technology	26	31	43	1.83		2.35	2.00	1.55	1.95	1.30
Processing and value addition	18	31	51	1.67		2.10	1.85	1.55	1.70	1.15
Spices										
Production and management technology	10	31	59	1.51		1.90	1.95	1.45	1.10	1.15
Processing and value addition	8	33	59	1.49		2.00	1.90	1.40	1.05	1.10
Medicinal and Aromatic Plants										
Nursery management	10	29	61	1.49		1.60	1.75	1.80	1.10	1.20
Production and management technology	9	30	61	1.48		1.70	1.85	1.65	1.05	1.15
Post harvest technology and value addition	12	20	68	1.44		1.40	1.95	1.65	1.10	1.10

interest in it followed by cultivation of low volume and high value crops (45%) and nursery rising to third position. Under Pomology, plant propagation techniques was the most important training needs as perceived by farmers. Production and management technology of tubers and spices (26%) was the other important training need with respect to other horticulture crops. The identified training needs of farmers under each sector in hill areas should find a place in planning and designing training programmes.

Animal Husbandry and Fisheries Sector

The majority of the respondents (54%) as shown by Table 5 opined to have training in overall information about infectious diseases as the most important. This might be due to the fact that, rural farmers have inadequate knowledge about technical aspects of diseases such as etiology, symptoms, diagnosis, prevention and control measures of the diseases. This was followed by poultry management, piggery management and feed management. In fisheries sector, integrated fish farming was reported the most needed training area by 41% of the respondents followed by composite fish culture and carp fry and fingerling rearing.

On Farm Production of Agricultural Inputs

Training on production of vermi-compost and seed production were still hot topics among farmers, which called for specific training programmes as expressed by 53% and 51% re-

Table 5: Weighted Score (1 – 3 Scale) and rank of the training needs of farmers of Manipur in Animal Husbandry and Fisheries sector and on farm production of inputs

Thematic area	*Manipur (n = 100)*					*Imphal east*	*Churachandpur*	*Thoubal*	*Senapati*	*Bishnupur*
	VI	*I*	*NI*	*WS*	*Rank*	*WS*	*WS*	*WS*	*WS*	*WS*
Animal Husbandry										
Dairy management	32	29	39	1.93		2.45	1.80	1.85	2.25	1.30
Poultry management	46	27	27	2.19	2	2.40	2.65	2.00	2.50	1.40
Piggery management	51	17	32	2.19	2	2.40	2.70	2.15	2.35	1.35
Rabbit management	7	15	78	1.29		1.30	1.35	1.35	1.45	1.00
Disease management	54	24	22	2.32	1	2.65	2.70	2.10	2.35	1.80
Feed management	40	23	37	2.03	4	1.85	2.20	2.05	2.55	1.50
Production of quality animal products	23	28	49	1.74		1.80	1.65	1.60	2.40	1.25
Fisheries										
Integrated fish farming	41	20	39	2.02	1	2.40	2.60	2.45	1.05	1.60
Carp breeding and hatchery management	23	24	53	1.70		1.75	2.20	2.20	1.05	1.30
Carp fry and fingerling rearing	26	18	56	1.70		1.45	2.30	2.10	1.15	1.50
Composite fish culture	28	21	51	1.77		1.95	2.10	2.25	1.20	1.35
Hatchery management and culture of freshwater prawn	2	18	80	1.22		1.05	1.45	1.35	1.10	1.15
Breeding/ culture of ornamental fishes	6	15	79	1.27		1.20	1.60	1.25	1.10	1.20
Portable plastic carp hatchery	8	13	79	1.29		1.25	1.65	1.35	1.00	1.20
Pen culture of fish and prawn	2	12	86	1.16		1.00	1.65	1.10	1.05	1.00
Shrimp farming	0	5	95	1.05		1.00	1.15	1.05	1.00	1.05
Edible oyster farming	0	5	95	1.05		1.00	1.20	1.00	1.00	1.05
Pearl culture	0	13	87	1.13		1.10	1.30	1.25	1.00	1.00
Fish processing and value addition	9	26	65	1.44		1.40	1.75	1.65	1.15	1.25
On Farm Production of Inputs										
Seed production	53	17	30	2.23	2	2.05	2.25	2.65	2.80	1.40
Planting material production	28	33	39	1.89		2.25	1.90	1.60	2.50	1.20
Bio-agents production	8	36	56	1.52		1.80	2.05	1.25	1.50	1.00
Bio-pesticides production	14	38	48	1.66		1.95	2.20	1.45	1.60	1.10
Bio-fertilizer production	19	43	38	1.81		2.10	2.25	1.60	1.65	1.45
Vermi-compost production	51	28	21	2.30	1	2.55	2.45	2.60	2.60	1.30
Organic manures production	39	29	32	2.07	3	1.60	2.45	2.25	2.70	1.35
Production of fry and fingerlings	22	18	60	1.62		1.60	2.10	1.95	1.25	1.20
Production of bee-colonies and wax sheets	1	27	72	1.29		1.25	1.50	1.55	1.10	1.05
Small tools and implements	9	34	57	1.52		1.90	1.50	1.45	1.65	1.10
Production of livestock feed and fodder	19	28	53	1.66		1.45	1.60	1.90	2.05	1.30
Production of fish feed	18	16	66	1.52		1.55	1.65	1.80	1.30	1.30

spondents respectively (Table 5). This was followed by organic manures and bio- fertilizers production technologies.

Home Science/Women Empowerment

Training on income generating activities for empowerment of rural women and household nutritional security through kitchen gardening (50% and 45% respectively) were found as the most sought after training need in Manipur. This was followed by training on value addition and storage loss minimization techniques (Table 6). Training needs on food and nutrition, preservation, women empowerment, kitchen gardening were the other important areas where farmers stressed for their training programmes.

Capacity Building and Group Dynamics

Leadership development among rural youths and farmers in the villages (44%) followed by formation and management of Self Help Groups (SHGs) (43%) were the most important training needs under capacity building and group dynamics (Table 6) in Manipur. The concerned stakeholders should offer a uniquely holistic facilitation methodology to ensure sustainable participatory development to poor communities. This would help to place communities at the centre of arriving at development solutions through leadership development and group dynamics.

Agricultural Engineering

From the Table 6, it can be seen that training on Post Harvest Technologies (PHT) was re-

Table 6: Weighted Score (1 – 3 Scale) and rank of the training needs of farmers of Manipur in disciplines of Home Science, Capacity Building and Agricultural Engineering

Thematic area	*Manipur (n = 100)*					*Imphal east*	*Churachandpur*	*Thoubal*	*Senapati*	*Bishnupur*
	VI	*I*	*NI*	*WS*	*Rank*	*WS*	*WS*	*WS*	*WS*	*WS*
Home Science/Women Empowerment										
Household food security by kitchen gardening and nutrition gardening	45	33	22	2.23	1	2.40	2.35	2.45	2.65	1.30
Design and development of low/mini. cost diet	28	32	40	1.88		2.00	1.80	2.25	2.00	1.35
Designing/ development for high nutrient efficiency diet	19	31	50	1.69		1.65	1.55	2.00	2.00	1.25
Minimization of nutrient loss in processing	20	30	50	1.70		1.50	2.05	2.20	1.65	1.10
Gender mainstreaming through SHGs	22	38	40	1.82		2.05	1.90	2.00	2.05	1.10
Storage loss minimization techniques	29	32	39	1.90		1.95	2.10	2.20	1.95	1.30
Value addition	38	20	42	1.96		2.05	2.25	1.80	2.50	1.20
Income generation activities for empowerment of rural Women	50	23	27	2.23	1	2.30	2.70	2.20	2.15	1.80
Location specific drudgery reduction technologies	13	43	44	1.69		1.75	1.45	2.00	2.05	1.20
Rural crafts	18	37	45	1.73		1.85	1.70	1.75	2.05	1.30
Women and child care	36	23	41	1.95		1.75	2.15	2.30	1.90	1.65
Capacity Building and Group Dynamics										
Leadership development	44	31	25	2.19	1	2.10	2.15	2.25	2.75	1.70
Group dynamics	24	35	41	1.83		1.55	1.85	2.10	2.55	1.10
Formation and management of SHGs	43	31	26	2.17	2	2.25	2.15	2.25	2.45	1.75
Mobilization of social capital	17	34	49	1.68		1.75	1.65	1.95	2.05	1.00
Entrepreneurial development of farmers/	26	30	44	1.82		2.05	1.80	2.00	2.00	1.25
youths WTO and IPR issues	6	19	75	1.31		1.20	1.40	1.65	1.20	1.10
Agricultural Engineering										
Installation and maintenance of micro irrigation systems	27	24	49	1.78		2.50	1.65	1.80	1.90	1.05
Use of plastics in farming practices	16	25	59	1.57		1.85	1.90	1.75	1.35	1.00
Production of small tools and implements	13	35	52	1.61		2.05	1.60	1.55	1.75	1.10
Repair and maintainence of farm machinery and implements	9	25	66	1.43		1.85	1.25	1.55	1.50	1.00
Small scale processing and value addition	23	30	47	1.76		2.05	1.90	1.80	2.00	1.05
Post harvest technology	44	15	41	2.03	1	1.80	2.00	2.55	2.65	1.15

ported by majority farmers (44%) as the most important need under agricultural engineering in Manipur. This was followed by training needs in areas of installation and maintenance of micro irrigation systems, small scale processing and value addition and use of plastics in farming practices.

b. Training Needs of Rural Youth with Respect to Vocational Training by KVKs

KVKs also provide vocational training specially crafted for rural youth. The training needs of rural youth separately identified and presented shows a picture of inadequate training (Table 7). Training on vermi-composting seems to be most inadequate and in need as responded by majority of the rural youth (49%). Same was the case with piggery followed by integrated farming, mushroom production and value addition. Vocational training on seed production, production of organic inputs and planting material production were also highly sought after.

CONCLUSION

The results revealed that even in the most popular areas of training, there was an inadequacy in terms of frequency of training imparted by KVKs of Manipur. This is evident from the fact that farmers sought maximum trainings on Integrated farming systems, integrated pest and disease management and technologies for soil and water conservation which were also found to be the most common training components in KVKs. Under horticulture sector also the trend was similar with Nursery management topping the list followed by cultivation techniques of fruit bearing trees like layout and management of orchards. Training

Table: 7: Weighted Score (1 – 3 Scale) and rank of the training needs of rural youths of Manipur in different vocations

Thematic area	*Manipur (n = 100)*					*Imphal east*	*Churachandpur*	*Thoubal*	*Senapati*	*Bishnupur*
	VI	*I*	*NI*	*WS*	*Rank*	*WS*	*WS*	*WS*	*WS*	*WS*
Mushroom production	42	27	31	**2.11**	**4**	2.50	2.15	2.20	2.65	1.05
Bee-keeping	7	37	56	1.51		1.60	1.75	1.65	1.45	1.10
Integrated farming	30	47	23	**2.07**	5	2.35	2.15	2.35	1.80	1.70
Seed production	36	31	33	**2.03**	7	2.10	1.95	2.35	2.60	1.15
Production of organic inputs	34	33	33	**2.01**	8	2.30	2.00	2.15	2.35	1.25
Integrated farming	42	34	24	**2.18**	3	2.65	2.35	2.35	2.00	1.55
Planting material production	34	33	33	**2.01**	8	2.65	1.95	1.75	2.55	1.15
Vermi-culture	49	32	19	**2.3**	1	2.55	2.05	2.60	2.80	1.50
Sericulture	10	25	65	1.45		1.80	1.40	1.45	1.60	1.00
Protected cultivation of vegetable crops	25	30	45	1.8		1.60	1.60	2.15	2.10	1.55
Commercial fruit production	20	32	48	1.72		1.40	1.70	1.80	2.65	1.05
Repair and maintenance of farm machinery and implements	10	26	64	1.46		1.75	1.40	1.65	1.50	1.00
Nursery management of horticulture crops	26	41	33	1.93		2.10	2.25	2.05	1.75	1.50
Training and pruning of orchards	13	33	54	1.59		1.20	1.90	1.95	1.90	1.00
Value addition	33	39	28	**2.05**	6	1.95	2.35	2.05	2.55	1.35
Production of quality animal products	22	25	53	1.69		1.75	1.55	2.00	2.15	1.00
Dairying	28	30	42	1.86		2.35	1.45	1.95	2.40	1.15
Sheep and goat rearing	3	18	79	1.24		1.10	1.25	1.35	1.50	1.00
Quail farming	4	6	90	1.14		1.20	1.20	1.25	1.05	1.00
Piggery	61	7	32	**2.29**	**2**	2.25	2.85	2.25	2.80	1.30
Rabbit farming	7	22	71	1.36		1.55	1.70	1.15	1.40	1.00
Poultry production	57	17	26	2.31		2.65	2.75	2.30	2.65	1.20
Ornamental fisheries	9	16	75	1.34		1.30	1.65	1.65	1.10	1.00
Para vets	6	22	72	1.34		1.20	1.40	1.45	1.65	1.00
Para extension workers	13	39	48	1.65		1.45	1.30	1.75	1.80	1.95
Composite fish culture	25	29	46	1.79		2.10	2.05	2.45	1.10	1.25
Freshwater prawn culture	10	23	67	1.43		1.85	1.60	1.60	1.00	1.10
Shrimp farming	1	6	93	1.08		1.00	1.20	1.20	1.00	1.00
Pearl culture	2	9	89	1.13		1.00	1.30	1.35	1.00	1.00
Cold water fisheries	3	14	83	1.2		1.05	1.45	1.40	1.05	1.05
Fish harvest and processing technology	11	27	62	1.49		1.25	2.00	1.95	1.10	1.15
Fry and fingerling rearing	29	18	53	1.76		1.75	2.30	2.05	1.20	1.50
Small scale processing	15	40	45	1.7		2.00	1.90	1.85	1.45	1.30
Post harvest technology	32	34	34	1.98		2.05	2.05	1.85	2.45	1.50
Tailoring and stitching	30	38	32	1.98		2.20	2.25	1.85	2.15	1.45
Rural crafts	22	37	41	1.81		2.05	1.50	2.05	2.15	1.30

needs under animal sciences also showed demand for the most common vocation, that is, pig rearing followed by prevention and cure of diseases. The results show that even though considerable efforts have been made in training of farmers in the common vocations and areas of interest, there still remains a gap which needs to be addressed. The KVKs have to re-orient their trainings based on these findings to fill the gap existing with respect to imparting need based training in the respective districts of Manipur.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are suggested:

1. Both extensive and intensive hand on-training programmes should be emphasized for farmers and rural youth through proper assessment of their training needs in the state.
2. Much emphasis should be paid on integrated farming systems, integrated pest and disease management and technologies for soil and water conservation while planning and designing training programmers for farmers.
3. Training areas such as nursery management, production and management of piggery, leadership and group dynamics should get importance while planning of training programmes for rural youth by KVKs as well as other concerned agencies.

4. The concerned stakeholders should pay relatively higher emphasis and care on those specific most important needs, as identified by this study through concerted efforts while formulating different training strategies and programmes for the farmers in hills and plain areas of Manipur and other similar agro-climatic and farming systems of the country.

REFERENCES

Barbazette J 2006. *Training Needs Assessment: Methods, Tools, and Techniques.* San Francisco: Pfeiffer.

Caffarela Roaemary S 2002. *Planning Programmes for Adult Learners. A Practical Guide for Educators, Trainers and Staff Developers*. 2nd Edition. San Francisco: John Wiley and Sons.

Chipeta S, Christoplos I, Katz E 2008. *Common Framework on Market-Oriented Agricultural Advisory Services*. Wagineng, Netherlands: Neuchâtel Group.

Davis J, Rylance C 2005. Addressing Poverty Through Local Economic and Enterprise Development: A Review of Conceptual Approaches and Practice. *Working Paper 3*, Natural Resources Institute.

Davis K, Ekboir J, Mekasha W, Ochieng C, Spielman D, Zerfu E 2007. Strengthening Agricultural Education and Training in Sub-Saharan Africa from an Innovations Systems Perspective. *Discussion Paper 00736*. Washington: IFRPI.

Holton EF 1996. New employee development: A review and reconceptualization. *Human Resource Development Quarterly,* 7: 233-252.

Knowles MS, Holton EF, Swanson RA 2005. *The Adult Learner: The Definitive Classic in Adult Education and Human Resource Development.* 6th Edition. California: Elsevier Science and Technology Books, P. 391.

Lynton RP, Pareek U 1990. *Training for Development.* New Delhi: Vistaar Publications.

McGhee W, Thayer PW1961. *Training in Business and Industry.* New York: John Wiley and Sons.

Pholonngoe MB, Richard L 1995. *Training Manual for Non-formal and Adult Education Trainers*. Extension Educator, Maseru: Lesotho Association of NFP.

Stephen L 2000. Principles of Adult Learning. South Mountain Community College from VISION, Fall. From< http://teach-usda.ahnrit.vt.edu/principles of adult learning / pdf.> (Retrieved September 24, 2009).

Venkatasubramanian V, Sajeev MV, Singha AK 2009. *Concepts, Approaches and Methodologies for Technology Application and Transfer: A Resource Book for KVKs.* Umiam, Meghalaya: Zonal Project Directorate, Zone – III.

Venkatasubramanian V, Singha AK, Pourouchottamane R, Sajeev MV 2009. *Training Needs And Methodology For Agricultural Development In North Eastern Region.* Umiam, Meghalaya: Zonal Project Directorate, Zone – III.

Wentling T L 1992. *Planning for Effective Training: A Guide to Curriculum Development.* Rome: FAO.