EFFECTIVENESS OF TRAINING FOR FACILITATORS OF PEOPLE'S RURAL EDUCATION MOVEMENT (PREM)

By

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THESIS

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DECLARATION

I, hereby declare that this thesis entitled "Effectiveness of training for facilitators of People's Rural Education Movement (PREM) is the bonafide record of research work done by me during the course of research and that the thesis has not previously formed the basis for the award to me of any degree, diploma, associateship or fellowship to other similar title, of any other University or Society

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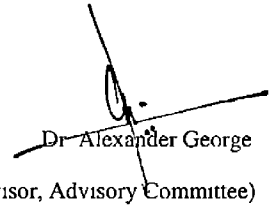
Certified that the thesis entitled "Effectiveness of training for facilitators of People's Rural Education Movement" is a record of the research work done independently by Miss Remya M under my guidance and supervision and that it has not previously formed the basis for the award of any degree, diploma, associateship or fellowship to her



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Remya M

Dedicated to

My

Beloved Family

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LIST OF ABBREVATIONS

ABF		Axis Bank Foundation
ACCER		Academy of Climate Change Education and Research
AET		Agricultural Education and Training
ATC	-	Agricultural Training Centers
ATIC		Agricultural Technology Information Centre
ATMA		Agricultural Technology Management Agency
CPBMB		Centre for Plant Biotechnology and Molecular Biology
CTI		Central Training Institute
DRM		Disaster Risk Management
ENF's		External Negative Factors
EPF's	-	External Positive Factors
FAO	-	Food and Agriculture Organizations
FTC		Farmer Training Centre
IAS	-	Indian Administrative Service
ICAR	-	Indian Council of Agricultural Research
ICRISAT	-	International Centre for Research on Arid and Semi
-		Arid Tropics
ICT		Information and Communication Technology
IFAD	-	International Fund for Agricultural Development
IFS		Indian Forestry Service
INF's	-	Internal Negative Factors
IPF's	-	Internal Positive Factors
IPM	-	Integrated Pest Management
KAU		Kerala Agricultural University
KUFOS	-	Kerala University of Fisheries and Ocean Studies
KVASU		Kerala Veterinary and Animal Sciences University

KVK	-	Krishi Vigyan Kendras
NAEP		National Agricultural Extension Project
NGO	-	Non Governmental Organization
PBT		Problem Based Training
PRA		Participatory Rural Appraisal
PREM		People's Rural Education Movement
PTM	-	Participatory Training Methodology
RARS	-	Regional Agricultural Research Stations
SREP	-	Strategic Research and Extension Plan
SMS	-	Subject Matter Specialist
SWOC	-	Strengths, Weaknesses, Opportunities and Challenges
SWOT		Strengths, Weaknesses, Opportunities and Threats

INTRODUCTION

I Introduction

Gandhi strove to recognize the inherent dignity in every person
Modern India honours but hardly follows Gandhi - Philip Yancey

Daniel Altman's Baseline Profitability Index 2015 which ranks destinations for attractiveness to foreign investors has placed India at the top of 110 countries way ahead of China and United States of America (The Hindu, 2015) True, giant textile mills have supplanted the wooden spinning wheels and high-tech office complexes churn out software that run the world's computers Yet India continues to live in its villages Empowering the farmer, the rural youth and the marginalized women is still the very key to social equity in the idea called India To study and document how Kerala - a state with social and developmental indices on par with developed nations could make ripples of far reaching consequences in the far flung tribal belt of Odisha by the synergy of public private partnerships turned out to be far more inspirational and path breaking than what a student researcher could have asked for from a post graduate programme

Odisha

Odisha a state along the eastern shore of the India is subject to drought severe cyclones and frequent floods Even though, agriculture sector plays a vital role in the economy of Odisha, natural calamities and fluctuating prices of agricultural commodities have driven people from agriculture to non agricultural sectors However, as more than 60 per cent of the people in Odisha still depend on agriculture increasing the agricultural production and productivity is imperative to ensure food security livelihood security and nutritional security There is a dire need for radical improvement in agricultural production and productivity through appropriate interventions in land and water management, agricultural marketing,

improved technology, public and private investments and effective implementation of ongoing programmes Inclusive growth and poverty alleviation programs have had their impact but poverty is still a matter of concern in the districts of Ganjam, Gajapati, Kandamal and Puri – the predominantly tribe dominated districts where social disparities still exist

People's Rural Education Movement

People's Rural Education Movement (PREM) is a nongovernmental organization (NGO) working for the welfare of tribal and other marginalized communities in Odisha and neighbouring states Founded in 1984, as a secular, humanitarian, non-political, voluntary non-governmental organization, PREM initially started as a literacy movement for the tribal population of Gajapati district of Odisha under the able leadership of Fr Jacob Thundyil Today PREM provides support and advocacy for sustainable and value based development through education, healthcare, livelihood initiatives, capacity building, good governance and protection of child rights by reaching out to over 50 lakh people in Odisha Andhra Pradesh, Telangana, Chhatisgarh, Jharkhand and Tamilnadu PREM and Axis Bank Foundation joined hands to implement Project PREMA to cover four districts of Odisha Ganjam, Gajapati Kandamal and Puri Project PREMA envisaged capacity building for youth from marginalized and disadvantaged sections of society by providing vocational skill oriented training in agriculture, computer hardware, computer software, hotel management, nursing, motor vehicle driving, security, mat weaving/craft designing and Grihini (a women oriented livelihood and leadership program)

Axis Bank Foundation

Axis Bank Foundation (ABF) was established in 2006 to fulfill the corporate social responsibility of Axis Bank Axis Bank contributes one per cent of its annual net profit to the activities of the Foundation Dun & Bradstreet-Polaris Financial

Technology Banking rated Axis Bank as best bank for rural reach in the private sector in 2014 ABF focuses on poverty alleviation, sustainable livelihood, education of the underprivileged and healthcare of the disadvantaged sections of society with a target of achieving one million sustainable livelihoods in the most backward regions of the country by 2017 ABF partners with nongovernmental organizations like PREM attain its objectives

It was not difficult for Fr Jacob Thundyil, the President of PREM to connect with Kerala Agricultural University as he hailed from Kerala Sri Cyriac Babu Joseph, the then Chief Executive Officer, Axis Bank Foundation was himself alumni of the Kerala Agricultural University Thus with the right people in the right place it was just natural for the possibility of networking with the Kerala Agricultural University in taking forward the agriculture related objectives of Project PREMA The synergy that emerged is in fact the focus of this study

Kerala Agricultural University

The Kerala Agricultural University (KAU), established in 1971 under the KAU Act (33 of 1971) became functional from 1st February 1972 with the mandate to provide excellence in agricultural education, research and extension for sustainable agricultural development and livelihood security of the farming community In 2012 KAU was trifurcated in to the Kerala Veterinary and Animal Sciences University (KVASU), Kerala University of Fisheries and Ocean Studies (KUFOS) and The Kerala Agricultural University In the process, KAU parted with many of its erstwhile institutions, landed property and assets Today, KAU fulfills its objectives through a network of institutions spread all over Kerala consisting of six constituent colleges, six Regional Agricultural Research Stations (RARS), fifteen Research Stations, seven Krishi Vigyan Kendras (KVKs) and other specialized centers such as the Academy of Climate Change Education and Research (ACCER), the Centre for Plant Biotechnology and Molecular Biology (CPBMB), the Central Library, the Central

Training Institute (CTI), the Communication Centre, the Agricultural Technology Information Centre (ATIC), etc KAU's most significant contribution has been qualified and competent human resources KAU's alumni guide and direct developmental activity in the State Departments of Agriculture, Veterinary, Fisheries, Soil Survey and Forestry, Indian Council of Agricultural Research (ICAR) institutions, other State Agricultural Universities, international organizations like Food and Agriculture Organizations (FAO), International Centre for Research on Arid and Semi Arid Tropics (ICRISAT), universities in USA, Australia and Africa, civil service cadres such as Indian Administrative Service (IAS) Indian Forestry Service (IFS), nationalized banks, cooperative banks and NGOs Till date KAU has released 308 crop varieties In 2003, KAU won the Sardar Patel Award for best State Agricultural University in India In 2009, the KVK, Kannur was adjudged the best KVK in India From 2007 to 2011, KAU has won the ICAR best performance award for academic performance for five years in row Thus in its triple mandate of education, research and extension, the Kerala Agricultural University has proved itself to be second to none in the nation

Central Training Institute, Mannuthy

Even though the university has been conducting training programmes ever since its inception in 1972, training activity was brought under one umbrella only with the establishment of CTI, Mannuthy CTI acts as the nodal point of all non KVK training activities undertaken by KAU CTI was established in 1986 under the World Bank assisted National Agricultural Extension Project (NAEP) Project funding ended in March 1990 Since then, CTI has been operating under non-plan funding The vision of CTI is to be counted as one of the nation's most pioneering, innovative, user friendly and self supporting training institution CTI strives to facilitate the acquisition of managerial and technical skills by extension workers, managers, scientists and administrators in all sectors of the agricultural economy to enable them to provide the most effective support and service to farming community

for practicing sustainable agriculture CTI has also been involved in the conduct of national and international training programmes

Training for Facilitators of PREM, Odisha at CTI, KAU

On the 6th May 2011 orders were issued by the Director of Extension, KAU (Or No Trg (1) 916/10 dated Mannuthy, 6th May 2011) for the conduct of the 1st batch of the Training for Facilitators of PREM, Odisha Thus the first batch of trainees from Odisha arrived at Mannuthy on the 13th May 2011 Till date, nine batches have since been trained at CTI, KAU Of these two batches were for advanced training on organic farming and improved animal husbandry practices One batch consisted exclusively of women In September 2012, a mid-course evaluation was made by an Expert Review Team consisting of four scientists from KAU who visited Ganjam, Gajapati and Kandhamal districts of Odisha to evaluate the impact of the training on the farming community and suggest suitable modifications in the training programmes based on ground realities

Objectives of the study

The objectives of the present study were

1 To evaluate the effectiveness of the training for facilitators of the People's Rural Education Movement (PREM)
2 To make a Strengths, Weaknesses, Opportunities and Challenges (SWOC) analysis of Kerala Agricultural University's training capability
3 To suggest ways and means of improving training activity of the Kerala Agricultural University

The model for this study may be conceptualized as three concentric circles The core circle is the study of a specific series of training programmes - the first objective being to evaluate the effectiveness of the training for facilitators of People's Rural Education Movement (PREM)) The next outer circle is being a study of the vehicle

of the above training programme the second objective being to make a SWOC analysis of training capabilities of KAU and the third circle - a logical extension of the first two circles - the third objective being to suggest ways and means of improving training activity of the Kerala Agricultural University

Scope of the study

This study will help to evaluate the effectiveness of the specified training programme and its impact on farming community of Odisha and decipher the societal transformation that took place in Odisha post training Apart from that, the study will also bring to light the parameters that contribute to training effectiveness in general This study explores the scope of public and private partnerships as a model for training synergy to be replicated in other backward regions of the nation This study will go a long way in understanding KAU's present training capability, drawbacks and suggest ways and means of further improvement to meet the changing demands in the agricultural scenario The study will serve as a guide to corporates on how they can very effectively channelize their corporate social responsibility towards highly effective and meaningful nation building activities In short this seminal work will enable policy makers to plan the future training milieu of KAU

Limitation of the study

Since the study was primarily based on the expressed opinion of the respondents, it may not be free from their personal bias and prejudices Mailed questionnaire was used for data collection, which restricted direct meaningful interaction with the respondents The present study had limitations of time and other resources, as it was done by a single student researcher as part of the requirement of her postgraduate programme Several new parameters were delineated for the purpose of the study and hence the lack of sufficient literature was also experienced

Organization of the thesis

This thesis consists of six chapters including the present one The first chapter deals with introduction that highlights the objectives, scope and limitations of study A systematic review of literature relevant to the study is presented in chapter two Chapter three describes the methodology, which includes locale of the study, research design, and selection of respondents, selection, operationalisation and measurement of variables, data collection and statistical tools used The fourth chapter devoted to results The fifth chapter discusses the results The technical programme for this study had specifically required inclusion of cases of actual back home utility and as a departure from the traditional format followed in a thesis report, these cases have been incorporated as insets in the discussion chapter Chapter six summarizes the major findings of the study and the conclusions drawn from the analysis and followed by references, appendices and an abstract of the thesis

REVIEW OF LITERATURE

II Review of literature

To have proper understanding about the research problem, a comprehensive analysis of the earlier works related to the field of study was necessary To make generalizations in social science, specification of related concepts and their delineation are prerequisites This would enable the researcher to design the research work, collect relevant information, selection of suitable variables, use of appropriate statistical tools and interpret in proper angle This chapter reflects the knowledge level of the researcher on this topic before the commencement of research work According to the objectives, a systematic review of literature about this topic and related concepts was attempted in this chapter

The objectives of the present study were

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Accordingly, the review of literature was done under the following sub heads

- Effectiveness of training
- Strength, Weakness, Opportunity and Challenges (SWOC) analysis
- Ways and means of improving training activity

Effectiveness of training

Training evaluation is defined as a "systematic process of collecting information for and about a training activity, which can then be used for guiding

decision making and for assessing relevance and effectiveness of various training components " (Rabb *et al*, 1987)

Four major factors are considered when selecting a training method the learning objective, the content, the trainees, and the practical requirements (Wentling, 1992)

Panickar *et al* (2000) revealed that the rural women were interested in training on modern practices of agriculture Training programme should be organized at a time convenient to the rural women, preferably in the evening hours Demonstration of modern practices should be conducted in the field of progressive farmer in the village

Singh *et al* (2000) reported that the systematic training demands effort There must be data on the participants, their source of learning interests, preferences and reaction about past training experiences Training to be effective it must suit to the convenience of the trainees and stimulate learning in them

Raju *et al* (2003) found out that the training to betel vine farmers helped them to gain more knowledge and skills about recent advances in cultivation of betel vine To make training effective, training need assessment should be taken before the training Majority of the trainees preferred non institutional training with 10 20 members as the ideal group They preferred training of three days duration They preferred demonstration method of training and their village as the place of training The training helped them to raise their socio economic level through improved agricultural production

Rayudu *et al* (2003) reported that the differential score obtained after and before training were taken as the indicators for effectiveness of training Majority of the trainees were in the middle age group Trainees were selected based on their training need assessment and their willingness to adopt technologies in their back-

home situation The 78% of the trainees had medium to high knowledge gain during training Age of the trainees was not significantly related to their knowledge gain

Savahya *et al* (2003) on the study of training need of the mango growers opined that the maximum impact of the training could be achieved if the training is need based The overall training need of the trainee was calculated by ratio scale called Training Need Quotient (T N Q) which ranged from 0 to 150 The area under mango orchard and the mango yield index had maximum positive direct effect on training need The adoption index and extension participation had maximum negative effect on training need

Shanmugasundaram *et al* (2003) concluded that the area of training prefeired by farm women were backyard poultry rearing practices, soap making, fruit and vegetable processing, bakery item preparation, mushroom cultivation, apiculture, floriculture and nursery preparation

Rahman *et al* (2004) found out that the Mizoram women needed training in almost all the areas relating to pig rearing They preferred a training of 2-3 days duration in their own village Lack of time, lack of awareness about training and inadequate compensation was the constraint in the training Therefore, trainings must be arranged and conducted according to the trainees convince to enhancing their knowledge and confidence in pig rearing

Pathak *et al* (2005) remarked that the training need assessment is the core of any training programme Before starting of the training, one must have clear understanding about the objective of the training Seating arrangement should be in a manner that encourages face to face interaction between the participants and trainers Trainers should arrange lively sessions especially after lunch time Group of optimum size should be selected for an effective training Training curriculum provides the foundation and frame work for traimng Use of local language enhances the success of training for farmers and farm women The achievement and prime activities of

training institute should be shown to the trainees This increases trainees' confidence and faith on training institute The relevance, effectiveness and impact of activities are determined through evaluation

Landge and Tripathi (2006) revealed that the Kissan Mithras (village level extension functionaries) perceived higher training need in crop production and vermicomposting, public health and sanitation, seed production technology, medicinal plant cultivation and farm equipment management They prefer 1-3 days training in rabi season at IVRI

Parimaladevi *et al* (2006) found out that the socio-psychological variables such as entrepreneurial and decision making abilities have a significant association with perception of the trainees about utility of the content of the training programme and trainer effectiveness

Rahmathulla *et al* (2006) carried out pre and post training evaluation to assess quality, effectiveness and impact of training programme of Central Sericultural Research and Training Institute, Mysore Training efficiency utility and facilities were measured using indices Improvement in knowledge level was noticed for all categories of trainees High level of training management efficiency index obtained shows that all facilities provided during training were adequate and these facilities were efficiently utilized by the trainees

Bajpai *et al* (2007) indicated that rice growers had higher training need in plant protection measures, seed treatment, fertilizer management and improved varieties of seed Training need was measured in three point continuum most urgent, somewhat urgent and less urgent

Dubey and Srivastava (2007) evaluated the effect of training by measuring knowledge and adoption behaviour of farmers after attending training on wheat

production technology The study was in experimental nature with trainees and non trainees as control group Trainees had higher level of knowledge (100 per cent) and extent of adoption (84 per cent) than non trainees

Kaur and Talukdar (2007) assessed the utility of training programmes of farm women on farm and home management, mushroom cultivation and horticulture on a three point continuum very much useful, useful and not at all useful The study found out that the training was very much useful for technical knowledge gain, technical skill development, performance of day-to day activities with the help of knowledge gained, skill developed during the training, fulfilling their needs and benefiting from group interactions among the trainees during trainings Educational level, annual family income, size of operational land holding of the family, social participation, training exposure, level of aspiration for economic independence, mass media exposure and extent of participation in decision-making were found to have positive and significant correlation with utility of training

Kumar *et al* (2007) worked out impact of training using experimental design of social research by considering the beneficiaries as experimental group and the non beneficiaries as a control group Impact of training was quantified in terms of impact index of gain in knowledge and adoption by the beneficiary in comparison with non-beneficiary as control group

Ousman (2007) found out that the agricultural development training programme for teff and poultry farmers of Alaba Woreda, Southern Ethiopia was not effective because of wide gap between training content and identified training need

Rajput *et al* (2007) opined that majority of respondents had high training needs on features of Bt cotton technology, insects scouting, manures and fertilizers, plant protection, Bt cotton varieties, harvesting and marketing Scientific orientation,

farming experience, land holding, social participation, education, age, area under Bt cotton and annual income found to have a positive and significant association with training need of Bt cotton technology

Dubey *et al* (2008) opined that on campus trainees had more knowledge about training programmes of KVK, Allahabad than off-campus trainees Also on campus trainees had higher socio economic status than off campus trainees Ex post facto research design with two variables viz socio-economic status and knowledge level of trainees about training programmes of KVK was selected for this study

Rai and Singh (2008) found out that training need and socio economic status of the trainees had a significant association in watershed development programme Training need was measured on three point continuum as more needed, partially needed and less needed Each area was ranked based on its mean value Crop planning, water conservation technique, irrigation and water management were demanded with highest demand

Omoregbee and Ajay (2009) suggested that regular training need analysis was needed for newly recruited extension staff to determine their areas of job deficiency The study attempted to analyze training need of extension staff of Edo state by job or occupational analysis using Mc Gee and Paul (1961) method For this seventeen different tasks performed by extension staff were identified and respondents were asked to indicate task in which they require re training to perform job well The study identified strong training need in communication skills, planning, demonstration, evaluation of trials and farmers training Education and job experience had significant relationship with training need

Aphunu and Ajayi (2010) adopted a five point Likert type scale for assessment of farmers' perception about effectiveness of training programme in Nigeria

Babu *et al* (2010) conducted a study to elicit opinion of superiors and subordinates about job performance of trained extension functionaries and to obtain suggestions of the trainees for improving effectiveness of training programme at Extension Education Institute, Hyderabad The results indicated that better communication skills, use of audio visual aids and participatory training methods increased job performance to some extent only, while when personality development interventions were used, the job performance improved to a larger extent

Badodiya *et al* (2011) assessed the impact of training on adoption of organic farming practices through purposive sampling of 120 trainees Study revealed that only 7 50 per cent of the respondents had high perception in organic farming before participation of training and after the participation in the training programme the percentage increased to 26 67 per cent Education, size of land holding, social participation, credit availability, annual income, source of information, contact with extension personnel, innovativeness, cosmopoliteness and knowledge about organic farming had significant relationship with perception of farmers about organic farming

Khan *et al* (2011) revealed that majority of the Agriculture Officers under study urgently needed training because 70 per cent of them had not attended regular trainings Majority (55%) of Agriculture Officers preferred trainings of 1 to 15 days duration with demonstrations

According to Kunche *et al* (2011) training effectiveness was the applicability of knowledge gained by the trainees in their work performance Key elements which determine training programme effectiveness were training environment, training design and development, training delivery, training implementation and training evaluation

Pandey *et al* (2011) revealed that over all adoption trends of trainees were more than average Adoption trend when correlated with education level of respondents indicated that active participation and adoption was higher for trainees having high school, intermediate and graduate level of education

Parganiha *et al* (2011) concluded that trainees rated utility of training as excellent and trainees' knowledge level was considerably increased after training on PRA, SERP preparation and ATMA than before training

Patil and Kokate (2011) conducted a study to assess the training needs of Subject Matter Specialist (SMS) of Krishi Vigyan Kendras of western Maharastra Descriptive and diagnostic research design was formulated to conduct the investigation Training need of SMS was assessed on a three point continuum most needed, somewhat needed and least needed with a score of 3, 2 and 1 respectively using a Training Need Index They found out that SMS had higher (78%) of training need in agriculture and allied areas SMS need more training in areas such as agricultural engineering (82 71%), agricultural finance, marketing and exports (82 08%) and Integrated Nutrient Management (80 83%), Integrated Pest Management (80 33%) and Extension Education (80 33%)

Sarma *et al* (2011) revealed that respondents had medium level of adoption Adoption had positive and significant relationship with operational land holding, mass media exposure and availability of fish pond while age, educational level and contact with project staff were found to have non significant relationship The sample of the study consisted of 150 women farmers 75 trained and 75 untrained women farmers through purposive cum proportionate random sampling method

Singh *et al* (2011) revealed that training aims at maintaining and increasing an employee's effectiveness for job promotion and at developing skill and knowledge for in-service activity Training institute should develop a course content and methodology in such a way that trainer should have in depth knowledge, which in turn increased knowledge of trainees Effectiveness of training had positive and significant relationship with elements of communication such as communicator, message, channel and receiver

Bhati *et al* (2012) assessed the knowledge gain through the training by subtracting pre training knowledge score from after training knowledge score Trainees had low level of knowledge before training, but after the training majority of respondent gained more knowledge

Gummagolmath *et al* (2012) stated that agricultural marketing officers with high knowledge have expressed their desire to undergo training Training should be conducted regularly to update the knowledge and skills according to changes in agricultural marketing

Reddy *et al* (2012) quantified effectiveness of training as sum of four indicators such as relevance of course content, knowledge gain, skill improvement and utility of the topics The results indicate that training had high relevance on most of the contents, substantial knowledge gain and low skill improvement by the trainees with overall training programme effectiveness index of 69 38 per cent

Schofield (2012) affirmed that training for farmer group members of Great Lake Cassava Initiative (GLCI) project was effective Farmer group members implemented all the improved disease mitigation and management practices that they learned from the training and 80 per cent of the trainees shared information gained in

the training with others Farmer group members with more training exposure were interested to share information with others

Singh *et al* (2012) concluded that the motivating factor which directed trainees towards training was their expectation to develop knowledge and skills on a specific topic Training resulted in substantial knowledge gain in the range of 12 24 per cent Trainees were satisfied with the training content, structure, facilities, methods and schedule followed in the training

Singh and Pandey (2012) measured the impact of model training course for extension functionaries in terms of knowledge gain, level of satisfaction of trainees, usefulness of the topics covered and overall grading of training Degree of learning acquired through training was measured by a learning index and increase in knowledge was 17 31 per cent More than half of the respondents rated the training as excellent Trainees opined that class room, laboratory facilities, lodging and boarding were very good during training programme Trainees were well satisfied with training content and its delivery methods

Thakor and Ahir (2012) found that rural entrepreneurship training programme conducted by Krishi Vigyan Kendra, Valsad, Gujarat had moderate effectiveness in economic gain and good impact on social development of women members Almost 59 percent of trainees were active and utilizing their skill

Venkattakumar and Sontakki (2012) concluded that majority of the participants (84 per cent) of Centre for Advanced Faculty Training programmes (CAFT) training had an opportunity to share learning experience and gains of programme with their colleagues through informal discussion Sixty nine per cent of participants utilized the knowledge and skill gained through CAFT programmes for fine-tuning their research

programmes Training contributed 35 per cent of knowledge gain and 20 per cent of skill gain to the participants

Blair *et al* (2013) stated that U S Agency for International Development (USAID) funded Water to Market training programme for Armenia on farm water management and high value crop production resulted low adoption Financial limitations, institutional factors and conservative mind set of trainees inhibited adoption on a wide scale

Barman and Kumar (2013) concluded that to make training programme effective, the trainer must facilitate the training process with facilitation skills such as observation, active listening, questioning, feedback, decision making, problem solving, acceptance, paraphrasing and summarizing

Gill and Sharma (2013) evaluated the effectiveness of Vocational Educational Training (VET) from trainee's perspective using Kirkpatrick's model The factors that contributed to training effectiveness such as supportive organizational environment, trainer s competencies, design, content of the program, opportunity to implement the learning s on-the-job, attitude, motivation of the participants were insignificant to training effectiveness Component analysis was employed to analyze the gaps in each item on pre training expectations and post-training experiences Based on gap analysis, factor analysis was undertaken to get a picture of effectiveness of training from the trainee's perspective

Meena (2013) revealed that training on scaling up of water productivity in agriculture and livelihoods resulted 44 23 per cent knowledge gain Trainees perceived crop and water management topic as highly relevant by 80 per cent and agreed that they had developed new skills by 58 per cent after attending the training Trainees opined that boarding and lodging, management and behaviour of staff was

excellent during training They were satisfied with best utilization of time, participatory lectures and perfect balance of theory and practical sessions

Pandey *et al* (2013) found that training and development include all attempts to improve productivity by increasing trainee's ability to perform Farmer need training to increase income per unit area because agricultural technology is changing and farmer need to keep abreast of new technologies

Rokonuzzaman (2013) assessed training need of tribal people of Bangladesh on a five point rating scale very high need, high need, medium need, low need and no need Majority of the tribal people had medium training need in homestead vegetable production, nursery establishment while high training need in livestock & poultry rearing and cottage industry Farmers' education, farm size, annual income, organizational participation and agricultural knowledge had a negative significant association with training need, while fatalism had significant positive correlation

Senthilkumar and Thanaseelaan (2013) opined that in the case of small ruminant farmers training, trainers reoriented the training programme according to farmers need Top priority for training was given to subjects in which the respondents were not aware about technologies

Senthilkumar *et al* (2013) revealed that KVK training programmes on sheep and goat farming practices were effective and increased the knowledge level of trainees Adoption of recommended practices of goat and sheep production was higher for disease control (68 89 per cent) followed by management and marketing (64 81 per cent)

Sharma *et al* (2013) evaluated the impact of training on fruit and vegetable preservation technologies in terms of knowledge gain and adoption The study found

out that knowledge gain and adoption were directly proportional and trainees had medium level of knowledge gain and adoption Age and land holding had a negative significant relationship while education, social participation had positive significant relationship with knowledge gain In the case of adoption age, family size and family type showed a negative significant relationship while education, social participation and mass media exposure were found to have positive and significant correlation

Singh and Singh (2014) found out that overall effectiveness of training programmes under Agricultural Technology Management Agency (ATMA) of Patna and Muzaffarpur districts fall in medium level (54 6 per cent) by working out Training Effectiveness Index Effectiveness was measured on different aspects of training such as relevancy of course content, easy understanding, immediate usefulness, timeliness of training, clarification of doubts and queries during training, adequate information in a particular area, overall satisfaction from training and based on participatory need assessment on a five point continuum ranging from very low to very high Most important perceived benefit of the training was increase in knowledge (58 3 per cent) and gain in skills (48 3 per cent)

Yadav *et al* (2013) stated that training needs were self assessed and reported, using perception by self method A schedule of ten potential need areas was developed with the aid of literature available The schedule was administered to the respondents and was completed based on their self-assessment of their own ability and job needs level The survey instrument included (i) ten questions pertaining to 'Level of ability' which called for a rating by the respondent as 'High', 'Medium' or 'Low' (ii) ten questions on 'Level of need of the job' which also called for a rating 'High', 'Medium' or 'Low' and (iii) three demographic questions The language of the instrument was the local language of the region as applicable

Dixit *et al* (2014) studied the impact of national and sponsored training programme on scientific goat farming at Central Institute for Research on Goats (CIRG) on knowledge of trainees Impact was assessed through pre and post knowledge test with five questions from different areas such as goat breeding, feeding, health, housing and reproduction Scores of pre and post knowledge test were calculated and compared using mean and paired t test Average knowledge scores of pre and post training programmes significantly increased in both national and sponsored training programmes while knowledge of trainees significantly improved after the completion of training

Kharde *et al* (2014) did training need analysis of scientists of Post Graduate Institute, Rahuri by using training need index in five broad training areas such as teaching, research, extension and training, administration and human relations Fifty one per cent of agricultural scientists expressed high level of training needs, while, 33 per cent expressed medium level of training needs Trainees had higher training needs in experiential learning methods, research project management techniques, monitoring, evaluation and impact assessment of training programme, performance based appraisal and climate change Educational qualification, total service experience in-service training and participation in seminar were found to have significant and negative relationship with training needs while scientific orientation, contribution in publication, job involvement, and achievement motivation had positive significant and correlation with the training needs

Senthil Kumar *et al* (2014) evaluated the effectiveness of training programmes conducted by KVK through perception trainees on four dimensions of training such as training output, teaching ability physical facilities and coverage of topics The perception score obtained for these dimensions were as training output (79 25), teaching quality (78 50), infrastructure facilities (70 17) and coverage of topics (56 22)

Sharma *et al* (2014) opined that training programme on dairy farming changed the mindset of dairy farmers. Training resulted in increase in the number of animals and herd size. Knowledge of trainees on different aspects of dairy farming was considerably increased after the completion of training than before training. Trainees adopted good dairy management practices and 98.33 per cent trainees vaccinated their animals after the training. Milk productivity and profitability also increased after the training.

Yadav and Parrek (2014) studied the impact of KVK's on-campus training on improved animal husbandry and use of farm implements. Trainees were categorized as low, medium and high knowledge level on the basis of scores obtained in knowledge test. On-campus trainees had higher level of knowledge in improved animal husbandry practices than in use of improved farm implements. There existed a higher significant difference between trainees of low and medium levels of socio-economic status on use of animal husbandry practices and improved farm implements.

Strength, Weakness, Opportunity and Challenges (SWOC) analysis

Radha and Dugger (1995) stated that SWOT analysis should be flexible according to change in situation and time and an updated analysis should be made frequently. SWOT is neither cumbersome nor time-consuming but is effective because of its simplicity.

Radheyshyam (2001) carried out SWOT analysis with the involvement of farmers in community. This participatory approach of SWOT analysis helped to identify demographic problems and socio-economic constraints related to aquaculture. Based on these results appropriate interventions were planned and provided to research/extension/policy planners for setting up directions and priorities for further improvement.

Bapela and Mariba (2002) made SWOT analysis for different categories of respondents; commercial farmers, small – scale farmers and agricultural workers of North Cape to identify provisions of agricultural education and training.

Sasidhar (2009) opined that SWOT analysis of veterinary science education was necessary, to orient academic programmes to meet new developments in animal husbandry with its increased emphasis on business oriented approach.

Jackson *et al* (2003) opined that to undertake a rigorous SWOT analysis, the primary data must collected through persons who have a deep understanding of the organization, including its historical perspective. This would enable one to identify its strengths, weaknesses and opportunities as well as a sound understanding of internal and external environment.

Department of Energy (DOE), Fiji (2005) carried out SWOT analysis training for its staff members. Members were given training on different aspects of SWOT analysis, the trainees were divided into small groups and advised to undertake SWOT analysis on DOE. The training offered opportunities for staff to involve in the assessment of the Department in light of its capacity to plan develop and manage energy sector programmes.

Suh and Emtage (2005) found out that statements obtained through SWOT analysis of community based forest management programme did not match with the actual facts of project operation but it reflects perceived opinion of respondents regarding current situation. Open ended questions were administered to the respondents in order to avoid bias from dominant players and to obtain relative frequency in SWOT analysis.

Panagea - European Institute for Environmental Education and Training (2006) carried out SWOT analysis to evaluate the National Conservation Sector (NCS) training centre. A SWOT table was prepared by brainstorming with experts and according to NCS decisions and evaluations. SWOT matrix arrived from SWOC table which consisted of S-O strategies, W-O strategies, S-T strategies and W-T strategies. S-O strategies should pursue opportunities which are good fit to institution's strength. W- O strategies aimed to overcome weakness and pursue opportunities. S-T strategies intended to practice institution strength which reduces vulnerability to external threat. W-T strategies should develop plans and methods which reduce weaknesses of institution.

Deniso (2007) stated that SWOC analysis was worked out in five steps: (1) orientation - strategic goals were fixed and ranked; (2) Open - SWOT analysis with respect to each strategic goal; (3) Open - development of action plan; (4) Move - organization and realization of development process; (5) Consolidate – consisted of monitoring of process, fixing of result and follow up.

Zollar and Bryunis (2007) suggested that SWOT analysis of farm business was a step towards the strategic planning to become competitive in the field. SWOT was undertaken in two sections. The first section of the SWOT analysis examines the internal workings (strength and weakness) of farm business which are usually controlled by the business owners. The second part looks outside of business, issues which could not be controlled, but are able to manage their impact on business. After completion of SWOT analysis, review of achievements and efficiencies were necessary for the development and evaluation of alternatives.

Gill (2008) used SWOT in the research sector of Technical Education Faculty (TEF) to arrive at suggestions based on the findings from SWOT analysis. The data

gathered was classified into internal environmental elements as strengths and weaknesses and external environmental elements as opportunities and threats.

Mukerji and Jammel (2008) found out that in order to identify the untapped spheres of higher education in Gulf countries that have the possibility for growth and development, SWOC analysis was prerequisites.

According to Rajgopal (2008) even though SWOT is a qualitative method, it helped to assess real status of a given situation. All points listed in SWOT may be incomplete, but it gave the possibility for in-depth study so it was successfully included in international and national studies.

Oladele *et al* (2009) made SWOT analysis of extension system of Southern African countries which provides a picture about the state of affairs of extension systems. Threats were examined with a view of suggesting how to revive the extension system. The threats highlighted were noted for policy considerations so that extension services would be more responsive to local conditions and concerns.

Valkanos *et al* (2009) revealed that the SWOT analysis was necessary to make strategic long term school planning of Institute of Vocational Training in Greece because it was decentralized to great extent and far away from city. The proper exploitation of the potentials of SWOT analysis offer opportunities to direct it to higher educational levels.

Adepoju and Famade (2010) employed SWOT as a decision making strategy to plan new vocational and technical education programmes in Nigeria. SWOT analysis was undertaken in two steps: first step was the preparation of worksheet with equal emphasis on each strength, weakness, opportunities and threats. The next step

consisted of listing of specific items under each sector of the work sheet, limiting 10 or fewer items per sector.

Sharma and Singh (2010) carried out comparative SWOT analysis to comprehend the pattern of development of Information and Communication Technology (ICT) within six universities of western Himalayan region of India. SWOT analysis provided basis for decision makers to exploit opportunities and minimize the external threats to achieve quality and excellence in higher education. SWOT analysis was done in four-tier framework: vision and planning; infrastructure; activities, performance and impact on the basis of primary data/ feedback obtained from different universities. On the basis of SWOT analysis, answers to some of the glaring questions regarding ICT ingredients were obtained. All these suggestions arrived through SWOT analysis could act as opportunities for the development of a system for various higher educational institutions/ universities.

Kumar (2012) conducted objective analysis of SWOT of four university libraries in Kerala according to opinions of the chiefs of each university. Strength and weaknesses were measured in terms of the collection, staff strength, qualification of the staff and infrastructure. SWOT analysis shows all the university libraries in Kerala with their strengths and opportunities can easily overcome the threats and weaknesses with appropriate positioning and marketing strategies.

Singh *et al* (2012) identified the key significant constraints which impede the growth potential of food processing industry through SWOT analysis. These constraints were addressed through the recommendations of the study.

Zhang (2012) stated that SWOT analysis was put forward by the management professor Weihrich at the University of San Francisco in the early 1980s. SWOT analysis is a method which analyse objectively and accurately the current state of a

unit. SWOT was divided into two parts: the first part is SW, mainly used to analyze the internal conditions; the second part is OT, mainly used to analyze the external conditions. With this method, we can find out those factors that work to our advantage and are worth promoting from a developmental perspective and avoid these unfavorable factors. In other words, it helps to discover problems, find out solutions, and then make clear decisions in future development direction.

Kumar and Nain (2013) revealed that SWOT analysis is a strategic planning method which evaluates the strengths, weaknesses, opportunities, and threats involved in the agriculture sector. In this study strengths were conceptualized as the characteristics of an enterprise that give advantage over the others while weaknesses were those characteristics that give disadvantage relative to others. Opportunities were external characteristics that could be exploited to get maximum advantage for the enterprise while threats were external elements in the environment that could cause trouble for the enterprise.

Singh and Varghese (2013) attempted to make a SWOT analysis of vocational courses in Kerala at the higher secondary stage. SWOT analysis was made using a questionnaire. Strength and weakness were measured in six areas: physical facilities, laboratory facilities, library facilities, instructional facilities of institutions, human relations aspect and co-ordination with other disciplines. Opportunities were measured as educational and employment opportunities provided by the vocational courses. Threats were unfavourable situations which stood against smooth conduct of the programme. SWOT analysis would be helped to discern how far the objectives of vocational education had been realized in Kerala and to suggest measures which would improve the existing system of vocational higher secondary education.

Kiran and Sastry (2014) administered specifically designed schedule to the officials, dealers and farmers for the conduct of SWOT analysis on Andhra Pradesh

State Seed Development Corporation. Strength, weakness, opportunities and threats of the APSSDC were delineated based on the SWOT analysis.

Ways and means of improving training activity

Swamson *et al* (1998) reported that staffing and training plans of training institutes improved through staffing plan inventories which identify current human resources, staffing gap, and projects staffing needs over a specified time. The training plan identifies specific types of training (in-service and formal) required to fill skill gaps in human resources and to cover staffing needs for planned operations. The additional step of coordinating training needs with the educational organizations is essential.

Pathak *et al* (2005) reported that steps should be taken to ensure the desired outcome of various training programmes in a cost effective manner. Judicious planning, proper implementation and thorough evaluation are necessary to develop and deliver need based extension training.

Rodaz and Salazar (2005) opined that Integrated Pest Management (IPM) scout training programme of Michigan State University provided leadership skill to disadvantaged growers and farm workers apart from technical curriculum. The trained scouts of IPM were inculcated with risk management skills necessary to succeed in their business and agricultural endeavors.

Ousman (2007) suggested that training for teff and poultry farmers should be made effective by implementing participatory performance-based trainings related with the actual work situations of the clients, effective implementation, follow-up and evaluation activities employed at farmers/FTCs level and including different stakeholders were included in Participatory Training Methodology (PTM) through participatory planning, implementation monitoring and evaluation activities.

Arslan *et al* (2008) suggested that besides in-house training, it was possible to improve the abilities of the employees in automoative industry by providing group leader training programme, for those who have successfully emerged after completing the program of 280 hours, ten modules and other personal development courses. One of the most important outcomes of this training is the contribution of the candidates to questioning, creating solutions, making suggestions, and having a dynamic approach to constant improvement.

Collet (2008) revealed that integrating agricultural training with enterprise training can help women small holders to manage and market their farm produce more effectively, thus taking advantage of new agricultural opportunities. Enterprise training can help farmers take and manage the risks involved in introducing progressive production technologies. It can also help women diversify their productive activities by branching out into on-farm enterprises, an important mechanism in reducing susceptibility to crisis and developing a more stable year-round income.

Spielman *et al* (2008) opined that in order to improve Agricultural Education and Training (AET) in Sub Saharan Africa, reforms would focus on expansion of informal AET programs: technical and vocational training institutes, in-service and on-the-job programs, distance education, apprenticeships and management training programmes for education and research administrators.

Aguinis and Kurt (2009) stated that several interventions were needed to enhance the benefits of training: organization should conduct need assessment using experienced subject matter experts, design should apply theory-based learning principles to organize the training content, provide trainees with adaptive guidance, documentation of benefits.

Swanson and Rajalahti (2010) reported that most of extension workers have had little training in farm management, agricultural marketing, newly emerging high-value crops and products, micro-finance options and agribusiness management.

Binoya (2011) opined that participants were engaged in data gathering process which they themselves designed using various tools like focus group discussion, venn diagramming, hazard mapping, vulnerability and capacity assessment and key informant interview. Through the exercise, the participants were able to generate desired information/data which they used in analyzing current Disaster Risk Management (DRM) systems in the communities. They were also able to generate recommendations for instituting effective DRM systems at various decision-making levels. Participants from the academy also realized the value of integrating DRM studies in their respective subjects and to use the various data gathering tools in analyzing DRM systems in their respective localities. They also recommend replicating the training in their respective spheres of operation.

Charmondsit *et al* (2012) suggested that Problem Based Training (PBT) offers useful insight into training programme on industrial ecology and environment. PBT enhanced transdisciplinarity, self-regulated learning, and collaboration by class learning, field study (learning by doing), and group discussion (analysis and synthesize idea).

Food and Agriculture Organization (FAO) and International Fund for Agricultural Development (IFAD) (2012) concluded that new training approaches should be adopted to adjust with rural situation. Uses of an integrated approach, combining technical training with life skills have proven to be successful.

Mathiasen *et al* (2012) found out that training using video recordings reflect the reality of the target audience's workplace situation. The visual aspects of video

appeared to help mitigate difficulties in message comprehension due to language barriers or unfamiliar terminology.

Ozudogru and Ozudogru (2012) suggested that in-service training programme of Turkey, was made effective through certain recommendations: evaluations should be made not only through teachers' views but also from students, evaluation conducted not only at the end of the process but also during the program, time of the programme should convenient for participants and educators should be selected from those who are experts in their fields and have adult education competency.

Reddy *et al* (2012) found out that quality of training programme for Adharsha Rythus should be improved through selection of location specific and need based topics, emphasis on skill based technologies, adoption of appropriate adult learning technologies, extension of training duration and standardisation of training curriculum.

Schofield (2012) revealed that face-to-face training is highly valued for hands-on practice and immediate feedback. It could be strengthened by increased frequency, supporting materials, practical hands-on work examples and demonstrations. E-learning courses should mimic face-to-face training by incorporating the local context and people, audio-visuals to show the actual subjects in the field, practical assignments and quizzes and by enabling interaction with a teacher via a blog.

Srivastava and Agarwal (2012) opined that to make training effective need assessment of training must be done according to the organizational need. Role playing, case studies, group discussion must be included in training sessions to ensure active participation of trainees and interesting sessions.

Arslan *et al* (2013) reported that European countries provide dual vocational training which combines the part time vocational schooling with the practical work experience. Researchers suggested that these graduates were employable because they were able to successfully carry out workplace tasks shortly after graduation without further training. Continuous professional development was delivered through these training programmes.

Art-in (2013) suggested that policy makers should decide to fund training workshops to upgrade the teachers' learning management ability. Developments of teacher training curriculum enable to upgrade students' analytical thinking.

Aragon *et al* (2013) revealed that learning-oriented training design would enhance individual learning capabilities (competencies and motivation to acquire knowledge), group learning capabilities (efficiency for working in groups and motivation for sharing knowledge) and organizational learning capabilities (culture, strategy and systems favoring organizational learning).

Elena (2013) concluded that training programmes for disadvantaged targets would be motivated and endowed with social abilities to mainstream the disadvantaged target and to reduce their drop-out share.

Khatun (2013) found out that organization should clarify effectiveness of different training methods before investing on employee training, whether it ensures better learning or not.

Njine (2014) reported that activities of Agricultural Training Centers (ATC) should be improved through (1) more funding for ICT infrastructure (2) collaboration with private or public institutions and (3) increasing number of training for staff and farmers.

Senthilkumar *et al* (2014) reported that training programmes of KVK, Kaattuppakkam should reorient the syllabus / training according to the need of trainees because the coverage of topics through training was insufficient for the clients.

METHODOLOGY

III. Methodology

This chapter describes what the researcher has done and explains the research design, the sampling procedure and methods used in data collection and statistical analysis.

3.1. Hypothesis under the study

3.2. Research design

3.3. Locale of the study

3.4. Sampling procedure

3.5. Selection, operationalisation and measurement of variables

3.6. Data collection

3.7. Statistical tools used

3.1. Hypothesis under the study

Null Hypothesis 1: Training for facilitators of People's Rural Education Movement was not effective.

Alternative Hypothesis 1: Training for facilitators of People's Rural Education Movement was effective.

Null Hypothesis 2: Training Institute has had no role in making the training for facilitators of People's Rural Education Movement effective.

Alternative Hypothesis 2: Training Institute has had a significant role in making the training for facilitators of People's Rural Education Movement effective.

3.2. Research design

The ex post facto research design was adopted for the study since the researcher did not have direct control over the independent variables as their manifestations had already occurred or because they were inherently not manipulable. Inferences about relations among variables were made, without direct intervention, from concomitant variation of independent and dependent variables (Kerlinger, 1964). Based on the

specific objectives and exhaustive analysis of literature available, qualitative and attitudinal variables were selected for the study.

3.3. Locale of the study

The study was undertaken from Thrissur while the respondents belonged to four districts of Odisha namely Ganjam, Gajapati, Kandhamal and Raygada. Thrissur became the locale of the study because the training program was conducted at the CTI, Mannuthy, Thrissur under KAU.

Ganjam: More than 80 per cent of people of Ganjam district depend on agriculture for their livelihood. Ganjam district is divided in two agro climatic zones: east and south eastern coastal plains and north eastern hilly ghat regions. Cultivated area in Ganjam is 4 lakh ha of which 50 per cent is covered by paddy, while the remaining major crops are maize, ragi, pulses (black gram, chick pea, peas), oilseeds (sesamum, ground nut), vegetables, sugarcane, cotton and spices. Ganjam has 69 per cent of marginal farmers, 19.8 per cent of small farmers and 11.2 per cent of large farmers.

Gajapati: Agriculture in Gajapati district experiences low productivity due to traditional agricultural practices, insufficient capital formation, low investment, inadequate irrigation facilities, low water use efficiency and uneconomic size of holdings. The cultivable area is 77,335 ha. Tribes occupy 50 per cent of the population. Gajapati district comes under north eastern ghat agro climatic zone with acidic black cotton soil. Major part of the district is hilly and predominated by horticultural crops. Major fruit crops cultivated are mango (6131 ha), Cashew (6037 ha), Citrus (520 ha), and Banana (497 ha). Vegetables cultivated include brinjal, tomato, chilli, coriander, cowpea, cucumber, bitter gourd, ridge gourd, pumpkin and water melon.

Kandhamal: Seventy one per cent of Kandhamal district is forest. The soil is subjected to heavy runoff. The climate is sub tropical with a hot and dry summer, sub-humid and prolonged cold and dry winter. Crops experience reduction in yield due to inadequate rain fall. Average size of land holdings was 1.15 ha. The district has no perennial irrigation system. Kandhamal district has 1, 27,790 ha of cultivated land of which 50,000 ha is under paddy.

Raygada: 1, 93,504 ha of Raygada district is under paddy, wheat, ragi, green gram, black gram, groundnut, sweet potato and maize. More than 70% of the population are tribes.

3.4. Sampling procedure

The training for facilitators of PREM was organized at CTI, Mannuthy as detailed below:

Batch number	Date	Number of trainees
1	13/05/11 to 01/06/11	20
2	12/09/11 to 06/10/11	19
3	21/01/12 to 15/02/12	20
4	19/07/12 to 12/08/12	18
5	19/11/12 to 08/12/12	15
6	07/02/13 to 04/03/13	18
7	17/03/13 to 10/04/13	20
8	18/03/14 to 03/04/14	20
9	09/06/14 to 03/07/14	20

Plate.1: Map of Odisha state showing locale of respondents

Out of 170 trainees 90 respondents were randomly selected. Simple random sampling method was adopted as it ensures that every constituent of population has an equal chance of being selected and no one has been given any preference (Thomas, 2015).

Ten stakeholders representing officials of PREM, AXIS Bank Foundation, resource persons and members of the Expert Review Team from KAU were selected purposively from a pool of 45 stakeholders constitute the second sample for this study. Purposive sampling was adopted in selection of stakeholders as the selected sample is based on a judgment (Thomas, 2015) – in this case the judgment of being most associated with maximum number of batches.

3.5. Selection, operationalisation and measurement of variables

Variables chosen have a crucial role in the progress of any research. Hence selection, conceptualization and measurement of variables is of prime importance. After explorative analysis of available literature and consultation with experts in subject of specialization, dependant and independent variables were selected for the study. Operationaliation and measurement of variables was done based on already formatted questions and expert opinion. In many cases, the researcher had no choice but to adopt variables and measurement modes already adopted in the secondary data which was to form a major basis for the present study.

Plate.2: Collaborators for synergy: PREM- Axis Bank Foundation- KAU

Plate.3: Faciltators of PREM from Odisha

Plate.4: Expert Review Team in Odisha

Plate.5: Expert Review Team in Odisha

3.5.1 Selection of variables

3.5.1.1Dependent variables

1. Adoption
2. Knowledge gain
3. Training Rigour
4. Training Expectations
5. Perceived applicability of knowledge gained
6. Back home utility
7. Extension Opportunity
8. Anticipated impact of training
9. Usefulness

Independent variables

3.5.1.2 Personal variables

1. Age
2. Gender
3. Educational Qualification
4. Years of experience in PREM
5. Additional Occupation
6. Farming Experience
7. Previous training exposure

3.5.1.3 Economic indicators

1. Land Owned
2. Land Cultivated
3. Crops Cultivated
4. Animal Husbandry
5. Annual Income

3.5.1.4 Socio –psychological variables

1. Social Participation
2. Extension Agency Contact

3. Motivation
4. Aspiration
5. Predisposition for Change
6. Orientation towards scientific and modern agricultural practices

3.5.2 Operationalisation and measurement of variables

3.5.2.1 Adoption

Adoption was operationally defined in the study as extent to which the respondents implemented the different practices learned at the training in their village after the training they had attended at CTI, Mannuthy.

In this study adoption of each of the listed practices was measured on a three point continuum with scores as follows: fully adopted (score - 3) meaning the technology was adopted in its totality; partially adopted (score -2) meaning that all aspects of the technology could not be adopted, but some aspects were adopted and not-at-all adopted (score -1) meaning that the technology could not be adopted at all.

3.5.2.2 Knowledge gain

Knowledge gain was operationally defined as the degree to which respondents acquired knowledge on various aspects covered in the training.

In this study knowledge gain was specifically measured by expressed gain in overall knowledge through the ladder that was administered to the respondents at the end of each training program and was available from secondary data at CTI, Mannuthy. The knowledge ladder consisted of six steps with scores of 0 to 5, and the respondents were asked to note down their perceived knowledge status before and after the training.

3.5.2.3 Training Rigour

Rigour is the fact of being careful and paying great attention to detail. Training rigour was operationally defined as the amount of effort taken by the training

organizers to ensure that all manipulate-able factors of the learning situation are fine tuned to maximize training effectiveness. Training rigour was measured as the consolidated score on a four point continuum (Strongly Agree - 4, Agree - 3, Disagree - 2 and Strongly Disagree - 1) obtained for (i) training content and presentation effectiveness (ii) trainers knowledge (iii) quality of instruction (iv) meeting of training objectives (v) class participation and interaction (vi) adequacy of time for discussion and clearing doubts (vii) over all conduct of training (viii) boarding and lodging facilities as expressed by the respondents in the secondary data.

3.5.2.4 Training Expectations

Expectations are the strong belief about something that will be happen or be the case. Training expectations was operationally defined as the trainee's belief about the training outcome before the conduct of training. It was measured based on a direct question available in the secondary data on the degree to which the training met the respondents' expectations on a four point continuum (Strongly Agree - 4, Agree - 3, Disagree - 2 and Strongly Disagree - 1).

3.5.2.5 Perceived Applicability of Knowledge gained

Perceived applicability of knowledge gained was operationally defined as perception of respondents regarding applicability of knowledge that they had gained at the training. It was measured based on a direct question available in the secondary data on the degree to which the respondent perceived applicability of knowledge gained on a four point continuum (Strongly Agree - 4, Agree - 3, Disagree - 2 and Strongly Disagree - 1).

3.5.2.6 Back Home Utility

Back home utility was operationally defined as the extent to which trainees found the skills and information learnt at the training as helpful to their day to day work as a facilitator in PREM. It was measured based on direct question available in

the secondary data on the degree to which the respondent perceived back home utility on a four point continuum (Excellent - 4, Good - 3, Average - 2 and Poor - 1).

3.5.2.7 Extension Opportunity

Extension Opportunity was operationally defined as the opportunity to share the information and knowledge acquired from training to others in their village. Extension Opportunity was measured based on a direct question available in the secondary data on whether or not such opportunity prevailed on a yes - no answer option with scores of 2 and 1 respectively.

3.5.2.8 Anticipated Impact of Training

Anticipated impact of training was operationally defined as the degree to which the respondents anticipated that the training would make a difference in the way they did their job. Anticipated impact of training was measured based on a direct question available in the secondary data on whether the training made a difference in the way they did their job on a three point continuum (Low - 1, Medium - 2 and High - 3).

3.5.2.9 Usefulness

Usefulness was operationally defined as extent to which training contributed to doing their job more effectively. Usefulness was measured based on a direct question available in the secondary data on extent to which training was useful to doing their job more effectively on a three point continuum (More Useful - 3, Useful - 2 and Less Useful - 1).

Plate.6: Hands on learning experience of training

Plate.7: Asking questions during training

Plate.8: Hands on experience on plant propagation techniques

Plate.9: Hands on training on bio pesticides

3.5.2.10 Age

Age of the respondent was operationally defined as the number of completed years of the respondent at the time of study.

Sindhu (2002) categorized the respondents in different age groups such as below 20 years, 21-30, 31-40, 41-50, 51-60 and above 50 years respectively. This method was slightly modified for this study. In present study age was categorized based on the 25^{th}, 50^{th} and 75^{th} quartile positions of its frequency distribution. Thus the respondents were classified into four groups: below 22 years, 22-30 years, 30-40 years and above 40 years.

3.5.2.11 Gender

In this study, respondents were gender categorized as male or female with scores as: male - 2 and female -1.

3.5.2.12 Educational qualification

Educational qualification was operationally defined as the highest qualification attained by the respondent at the time of study.

Scale used by Sayooj (2012) was modified for the context of present study to measure educational qualification. In this study educational qualification was measured by giving scores as follows: below matriculation - 1, matriculation - 2, higher secondary - 3, graduation - 4 and post graduation - 5.

3.5.2.13 Number of years of experience in PREM

Number of years of experience in PREM was operationally defined as the completed years of service as a facilitator in PREM.

Present study number of years of experience was categorized based on the 25^{th}, 50^{th} and 75^{th} quartile positions of its frequency distribution. Thus the respondents

were classified into four groups: no experience, 1-3 years, 4-14 years and above 14 years.

3.5.2.14 Additional Occupation

Additional Occupation was operationally defined as any employment other than that of being a facilitator of PREM which provided additional income for the respondents.

Simi (2005) measured the occupation of the respondents as agriculture-3, self employed-2, salaried-1 and no occupation-0. This scale with suitable modifications was adopted for this study. Present study measured the additional occupation of the respondents with a score as: without additional occupation-1, self employed-2, government job-3 and others - 4.

3.5.2.15 Farming Experience

Farming Experience was operationally defined as the number of years of hands-on agricultural activity that the respondent had at the time of this study.

Scale followed by Sreedaya (2000) with suitable modifications was taken for this study In present study farming experience was categorized based on the 25^{th}, 50^{th} and 75^{th} quartile positions of its frequency distribution. Thus the respondents were classified into four groups: 0 -2 years, 3 - 5 years, 6 - 12 years and above 12 years.

3.5.2.16 Land Owned

Land Owned was operationally defined as the area in hectares for which the respondent had legal ownership rights.

In this study land owned was classified based on the 25^{th}, 50^{th} and 75^{th} quartile positions of its frequency distribution. Thus the respondents were classified into five groups: landless, below 1 ha, 1-2 ha, 2 - 4 ha and above 4 ha.

3.5.2.17 Land Cultivated

Land Cultivated was operationally defined as the area in hectares of land under cultivation by the respondent.

In this study land cultivated was grouped based on the 25th, 50th and 75th quartile positions of its frequency distribution. Thus the respondents were classified into four categories: below 1.75 ha, 1.75 - 3 ha, 3 - 4 ha and above 4 ha.

3.5.2.18 Crops Cultivated

Crops Cultivated was operationally defined as number of the respondents engaged in the cultivation of different crops. It further gives an idea about major crops cultivated by the respondents.

Crops cultivated by the respondents were measured through an open ended question and it was expressed in percentages.

3.5.2.19 Animal Husbandry

Animal Husbandry was conceptualized as animal wealth of respondents.
In this study animal husbandry was measured by number of respondents involved in rearing of animals such as: oxen, cows, buffaloes, goats, pigs and poultry birds and expressed in percentages.

3.5.2.20 Annual Income

Annual Income was operationally defined as the total money return obtained from the main occupation and other sources.

Socio-economic scale developed by Venkataramaih (1983) with considerable alterations was followed in this particular study. In this study annual income of the respondents was categorized based on the 25th, 50th and 75th quartile positions of its frequency distribution. Thus the respondents were classified into four groups: below

Rs: 30,000/-, Rs: 30,000/- to Rs: 50,000/-, Rs: 51,000/- to 78,000/- and above Rs: 78,000/-

3.5.2.21 Social Participation

Social Participation was operationally defined as the involvement of the respondent in the activities of any organization other than PREM.

Fayas (2003) measured social participation of respondents in two sections: involvement in organizations and frequency of attending. This scale was fine tuned in the context of this study. In present study social participation of the respondents was measured by an open ended question; whether they were involved in the activities of any organization other than PREM by giving scores as: Yes - 2 and No - 1. Based on their involvement, social participation was categorized as before training involvement with a score of 1, after training involvement with a score of 2 and a score of 3 in the case involvement both before and after training. Membership of the respondents in organization was measured by giving scores as: member in one organization - 1, member in two or more organization - 2 and as office bearer - 3.

3.5.2. 22 Extension Agency Contact

Extension Agency Contact was operationally defined as the frequency of contact of the respondent with different extension agencies such as Agricultural Officer, Veterinary Officer, University Scientist, NGO expert and other sources.

Scale used by Parimaladevi (2003) with suitable modifications was employed in this study. In the present study Extension Agency Contact was measured on a four point continuum with scores as follows: often (once a week) - 4, occasionally (once a month) - 3, seldom (once in a year) - 2 and never - 1.

3.5.2.23 Motivation

Motivation is an inner state that energizes, activates, moves and/or directs human behaviour towards a particular goal.

In this study motivation was operationally defined as a spur acting in the respondent as a facilitator in PREM. The spurs were classified as power motivation (the desire to influence and have power over people), affiliation motivation (the desire to have good contacts and social relationships in life) and achievement motivation (the desire to accomplish something in life).

Scale used by Sherin (1999) with suitable modifications was adopted for the present study. Motivation was measured on a four point continuum with scores as follows: Strongly Agree - 4, Agree - 3, Disagree - 2 and Strongly Disagree - 1.

3.5.2.24 Aspiration

Aspiration is the hope or ambition to achieve something. Aspiration was operationally defined as the ambition or hope of the respondent to achieve something in and through their work as a facilitator in PREM.

Kumaran (2008) measured level of aspiration of respondents with five statements on a two point continuum. The method was altered according to requirements of present study. In the present study aspiration was quantified as the summation of four positive statements and two negative statements on a four point continuum: Strongly Agree - 4, Agree - 3, Disagree - 2 and Strongly Disagree - 1. For negative statements scoring pattern was reversed as: Strongly Agree - 1, Agree - 2, Disagree - 3 and Strongly Disagree - 4.

3.5.2.25 Predisposition for change

Predisposition for change is a condition that makes the subject likely to behave in a particular way when provided with an alternative. Predisposition for change was

operationally defined as the favourable attitude or propensity of the respondents to bring changes in the agricultural practices of their village or by themselves when they were provided with an alternative.

Scale used by Sarala (2008) was slightly modified and used for this study. In the present study predisposition for change was arrived as the consolidated score of three positive and two negative statements on a four point continuum. For positive statements the score pattern followed was as: Strongly Agree - 4, Agree - 3, Disagree - 2 and Strongly Disagree - 1. For negative statements scoring pattern was reversed as: Strongly Agree - 1, Agree - 2, Disagree - 3 and Strongly Disagree - 4.

3.5.2.26 Orientation towards scientific and modern agricultural practices

Orientation is person's basic beliefs or feelings about a particular subject or issue. Orientation towards scientific and modern agricultural practices was operationally defined as the beliefs or feelings that the respondent had towards scientific and modern agricultural practices and their adoption.

Smitha baby (2001) measured scientific orientation of respondents with five statements on a five point continuum; this scale was adapted according to context of this study. In this study orientation towards scientific and modern agricultural practices was measured as the consolidated score of three positive and negative statements on a four point continuum. For positive statements scoring pattern followed was Strongly Agree - 4, Agree - 3, Disagree - 2 and Strongly Disagree - 1. For negative statements scoring pattern was reversed as: Strongly Agree - 1, Agree - 2, Disagree - 3 and Strongly Disagree - 4.

3.5.2.27 Previous training exposure

Exposure refers to previous training undergone. Previous training exposure was operationally defined as the number of training programmes attended by the

respondent prior to attending the training programme at CTI, KAU and whether respondent had attended the training programme at CTI, KAU on a previous occasion Scores were given as detailed below

Previous training exposure	Score
Frequency of training attended from CTI, Mannuthy	
Once	1
Two	2
Thrice	3
Have you attended any other training programme before	
Yes	2
No	1
If yes, number of trainings attended before the training from CTI, Mannuthy	
Once	1
Twice	2
Thrice	3
Four times	4

3.6. Data Collection

Keeping in mind the objectives, a draft questionnaire was prepared, circulated among experts and based on their suggestions, modifications were made wherever necessary A pilot study was conducted on fifteen participants of the batch of facilitators from PREM Odisha during 18th March 2014 to 3rd April 2014 Modified Participatory Appraisal Techniques were used to gauge the perceptions of the trainees The draft questionnaire was also administered Based on the experience and feedback obtained the questionnaire was further fine tuned The final questionnaire (Appendix II) was prepared taking much care to ensure that the questions will be simple, direct, straight forward, that there would be no ambiguity, and that the respondent would not be exasperated by a lengthy laborious exercise The

questionnaire was mailed to the respondents through PREM office at Mandiapalli, Rangailunda (P O), Berhampur - 760007, Ganjam, Odisha The filled up questionnaires were received back in good time In the meanwhile secondary data available at CTI, Mannuthy was subjected to intense study and analysis The mailed questionnaire was sent to the 90 randomly selected respondents However it was found that secondary data was available at CTI, Mannuthy only for 60 out of those 90 respondents Hence in some cases the sample size was 90 while the corresponding secondary data sample size was limited to 60 Based on expert discussion and opinion, a list of ten stakeholders (Appendix I) was made and SWOC (Strength Weaknesses, Opportunities and Challenges) analysis was undertaken with the stakeholders using a freewheeling interview schedule (Appendix III) intended to provoke candid responses and the information thus collected finds a place in the results and discussion chapter of this report

3.7. Statistical tools used

Frequency and percentage analysis

Frequency analysis shows the number of occurrences of each response chosen by the respondents Percentage is a number expressed as it is part of a total which is hundred In this study frequency and percentage analyses were used to enable valid comparisons

Pearson's correlation

Pearson's correlation was used to find out the strength of linear relationships between variables In this study Pearson's correlation coefficient was worked out for variables with precise values such as age, number of years of experience in PREM, farming experience, land owned, land cultivated and annual income on dependent variables

Spearman's rank order correlation

Spearman's rank order correlation is a nonparametric statistical method which indicates the strength and direction of association between two variables that are measured on an ordinal scale In this study Spearman's rank order correlation coefficient was worked out to find the association between dependent and independent variables that were expressed in ranks

Chi- Square test

Chi- Square test was used to find out association between variables In present study Chi- Square value was calculated to find out the relationship between gender and usefulness of the training

Kendall's coefficient of concordance

Kendall's coefficient of concordance is a non parametric test used to assess the agreement among raters It was calculated using the formula $W = 12\ S/\ K^2\ (n^3-n)$ In this study Kendall's coefficient of concordance was used to determine usefulness rating of topics covered in training

Wilcoxon signed -rank test

Wilcoxon signed rank test is a non parametric test used for the comparison of two related samples to assess whether or not the population mean ranks were different In this study Wilcoxon signed rank test was used to compare of knowledge gain of respondents before and after the training

Kruscal - Wallis one-way Anova test

Kruscal - Wallis one - way analysis of variance is a non parametric test used for the comparison of two or more independent samples that may have different sample sizes and determine statistical difference, if any, between the said samples

In this study Kruscal Wallis one-way analysis of variance was used to measure significant differences among respondents who had attended the training in different years to find out if there was any significant difference with respect to dependent and independent variables

3.7 Strength, Weakness, Opportunities and Challenges (SWOC) Analysis

The stakeholders were asked to list the Strength, Weakness, Opportunities and Challenges As the objective of this study was to make a SWOC analysis of Kerala Agricultural University's training capability, the Strengths, Weaknesses, Opportunities and Challenges listed by the stakeholders that pertained to the specific training under study were delineated from those that pertained to the Kerala Agricultural University's training capability Those that pertained to the specific training under study are discussed separately while those that pertained to Kerala Agricultural University's training capability were subject to further analysis using the method suggested by Vermeulen *et al* in 2008

Strengths were conceptually defined as Internal Positive Factors (IPFs) Weaknesses were conceptually defined as Internal Negative Factors (INFs) Opportunities were conceptually defined as External Positive Factors (EPFs) Challenges were conceptually defined as External Negative Factors (ENFs)

Steps in SWOC Analysis were

1 The Strengths Internal Positive Factors (IPFs), Weaknesses Internal Negative Factors (INFs), Opportunities External Positive Factors (EPFs) and Challenges External Negative Factors (ENFs) were listed
2 The weaknesses were rewritten as positive statements
3 All the internal factors were listed horizontally in a table as strategic options
4 All the external factors were listed vertically in a table as treatments

5 Each statement in the strategic options was compared with the treatments and values assigned for each combination in consultation with experts
6 The subtotal of all positive statements (IPF's, INF's and EPF's) and negative statement (ENF's) was determined
7 The subtotal of the positive statements (IPF's, INF's and EPF's) was subtracted from the subtotal of the negative statements (ENF's) to attain a score
8 The highest scores were treated as the best strategic options

Training Need Analysis

Training need analysis was done at three levels The perceived training need felt by the participants immediately after the training programme was determined based on the expression of those needs by the participants themselves in the feedback The second level of training need analysis was undertaken by a study of the report submitted by the Expert Review Team that visited Odisha The third level of prospective training need analysis was done by personal interviews and discussions with the selected stakeholders

Feedback Analysis

The detailed feedback given by the participants at the end of each training programme was studied and observations thus made The usefulness of the training was also measured by obtaining average score of the rating given on a 1 9 continuum for each of the sessions covered under the training programme

Effectiveness as perceived by stakeholder

This aspect of the study was done by personal interviews and discussions with the selected stakeholders

Suggestions by respondents / and stakeholders

Suggestions regarding the training programme were culled out from the participants detailed feedback and as well as through the mailed questionnaire and interview schedule in the format of an open ended question

RESULTS

respondents had higher secondary level of education and 15 5 per cent of them were graduates Only 3 per cent of them had post graduate level of education

Table 4.3: Years of Experience in PREM of respondents

Experience (in years)	Frequency	Percentage
0	13	14 44
1 3	30	33 33
4-14	24	26 67
15 and above	23	25 56

Results presented in Table 4 3 shows that majority (33%) of the respondents had 1 to 3 years of experience in PREM Twenty seven per cent of respondents had 4 to 14 years of experience while almost an equal number (25%) of respondents had experience in PREM of above 14 years Only 14 per cent of respondents had no previous experience in PREM

Table 4.4: Additional Occupation of respondents

Additional Occupation	Frequency	Percentage
Self employed	57	63 33
Government Job	0	0 00
Others (Volunteer activity)	13	14 44
No additional occupation	20	22 22

Table 4 4 shows that 63 per cent of the respondents were self employed and 22 per cent of them had no any other additional occupation None of them had a government job and 14 per cent of respondents had other jobs as additional occupation

Table 4.5: Farming experience of respondents

Experience (in years)	Frequency	Percentage
0 2	17	18 89
3 5	29	32 22
6 12	22	24 44
13 and above	22	24 44

Table 4 5 shows that the majority (32%) of the respondents had 3 to 5 years of farming experience Twenty four per cent of the respondents had 6 to 12 years and yet another 24 per cent had above 13 years of farming experience The remaining 19 per cent of were in no experience to 2 years

Table 4.6: Land Owned by the respondents

Area (in acres)	Frequency	Percentage
Nil	2	2 22
Below 1	10	11 11
1-2	33	36 67
3 4	26	28 89
5 and above	19	21 11

Results furnished in Table 4 6 show that 37 per cent of respondents owned 1 to 2 acres and 29 per cent of them owned 3 to 4 acres of land Above 5 acres of land was owned by 21 per cent of the respondents Eleven per cent of the respondents owned land below 1 acre and only 2 per cent of the respondents owned no land

Table 4.7: Land Cultivated by the respondents

Area (in acres)	Frequency	Percentage
Below 1 75	20	22 22
1 76 3 00	30	33 33
3 01 4 00	18	20 00
4 01 and above	22	24 44

Table 4 7 shows that majority (33%) of respondents cultivated 1 76 to 3 acres of land Twenty four per cent of respondents cultivated above 4 01acres of land Twenty two per cent of respondents cultivated in area of below 1 75 acres Twenty per cent of respondents cultivated 3 01 to 4 acres of land

Table 4.8: Annual Income of the respondents

Annual Income (Rupees)	Numbers	Percentage
Below 30000	18	20 00
31000 51000	27	30 00
52000 78000	21	23 33
79000 and above	24	26 67

Results presented in Table 4 8 show that there was an almost even distribution of respondents in all annual income categories 27 per cent in the above Rs 79,000/ category, 23 per cent between Rs 52,000/ to Rs 78,000/-, 30 per cent between Rs 31,000/- to Rs 51,000/ , and 20 per cent in the below Rs 30,000/ category

Table 4.9: Crops Cultivated by the respondents

Crops	Frequency	Percentage
Paddy	77	86 00
Vegetables	49	54 40
Plantation crops	32	38 55
Pulses	24	26 67
Maize	15	17 67
Fruit crops	9	10 84
Ragi	8	8 89
Oil seeds	8	8 89
Spices	6	6 67
Sugar cane	1	1 11

Table 4 9 shows that the majority (86%) of the respondents were involved in paddy cultivation Fifty four per cent of respondents cultivated vegetables and 39 per cent of them plantation crops Pulses were grown by 27 per cent of the respondents, maize by 18 per cent, fruit crops by 11 per cent, ragi and oil seeds were cultivated by 9 per cent and spices by 7 per cent of respondents Only 1 respondent cultivated sugar cane

Table 4.10: Animal Husbandry by the respondents

Animals	Frequency	Percentage
Oxen	58	64 44
Cows	53	58 89
Buffaloes	4	4 44
Goats	35	38 89
Pigs	5	5 56
Poultry birds	81	90 00

Table 4 10 reveals that the 90 per cent of the respondents were involved in poultry rearing Sixty four per cent of respondents owned oxen, 59 per cent owned cows and39 per cent were engaged in goat rearing Six per cent of respondents were engaged in piggery and only 4 per cent in reared buffaloes

Table 4.11: Social Participation

Sl No	Social Participation	Frequency	Percentage
1	Involvement in activities of any organization other than PREM		
	Yes	14	15 56
	No	76	84 44
2	If yes was the involvement		
	Before training	0	0 00
	After training	14	100
	Both before and after training	0	0 00
3	Other than PREM membership in		
	One organization	10	71 43
	Two or more organization	3	21 43
	Office bearer	1	7 14

Table 4 11 reveals that 84 per cent of the respondents were not involved in activities of any organization other than PREM But 16 per cent of the respondents became involved in the activities of organizations other than PREM after the training at CTI, KAU Among these 10 respondents were member of one organization, 3 of them in two or more organization and one was an office bearer in an organization other than PREM

Table 4.12: Extension Agency Contact

Sl No.	Extension Agency Contact	Frequency	Numbers	Percentage
1	Agricultural Officer	Often (once a week)	14	15 56
		Occasionally (once a month)	60	66 67
		Seldom (once a year)	16	17 78
		Never	0	0 00
2	Veterinary Officer	Often (once a week)	22	24 44
		Occasionally (once a month)	52	57 78
		Seldom (once a year)	8	8 89
		Never	8	8 89
3	University Scientist	Often (once a week)	0	0 00
		Occasionally (once a month)	4	4 44
		Seldom (once a year)	23	25 56
		Never	63	70 00
4	NGO Experts	Often (once a week)	22	24 44
		Occasionally (once a month)	24	26 67
		Seldom (once a year)	27	30 00
		Never	17	18 89
5	Others	Often (once a week)	0	0 00
		Occasionally (once a month)	1	1 11
		Seldom (once a year)	14	15 56
		Never	75	83 36

Results furnished in Table 4 12 show that the majority (67%) of respondents had contact with the Agricultural Officer occasionally Fifty eight percent of the respondents contacted the Veterinary Officer occasionally (once a month) Majority (70%) of respondents had never contacted a University Scientist Contact with an NGO expert was rather uniformly distributed Most (83%) of respondents had no contact with any other source for technical help and advice

Table 4.13: Motivation

Category	Motivation					
	Power Motivation		Affiliation Motivation		Achievement Motivation	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Low	1	1 10	Nil	Nil	2	2 20
Medium	37	41 10	54	60 00	48	53 30
High	52	57 80	36	40 00	40	44 40

Results presented in Table 4 13 shows that the 58 per cent of respondents had a drive towards power and influence over people as a facilitator in PREM Working as a facilitator in PREM provided affiliation motivation in terms of good relations and social contact for 60 per cent of the respondents Achievement motivation was medium for 53per cent and high for 44per cent of the respondent

Table 4.14: Aspiration

Aspiration	Frequency	Percentage
Low (<16 7)	15	16 70
Medium (16 7 19 6)	63	70 00
High (>19 6)	12	13 33

From Table 4 14 it was evident that majority (70%) of respondents had medium level of aspiration, 17 per cent of respondents had low aspiration level and only 13 per cent of respondents had high level of aspiration

Table 4.15: Predisposition for change

Predisposition for change	Frequency	Percentage
Low (<13 9)	8	8 90
Medium (13 9 16 2)	73	81 1
High (>16 2)	9	10 00

Table 4 15 indicates that majority (81%) of the respondents felt need for a change in agricultural practices in their villages Ten per cent of respondents were highly predisposed for change in their farming scenario while only 9 per cent respondents were disinclined towards change

Table 4.16: Orientation towards scientific and modern agricultural practices

Orientation towards scientific and modern agricultural practices	Frequency	Percentage
Low (<15 3)	13	14 50
Medium (15 3 19 4)	54	60 10
High (>19 4)	23	25 50

Results furnished in Table 4 16 show that 60 per cent of respondents had a medium orientation towards modern and scientific agricultural practices Twenty five per cent of respondents were highly oriented, while 15 per cent of respondents had low orientation towards scientific and modern agricultural practices

Table 4.17: Adoption

Practices	Full Adopted		Partially Adopted		Not at all Adopted	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Organic and eco friendly farming practices	80	88 89	10	11 10	0	0 00
Processing and value addition techniques	35	38 89	53	58 89	2	2 22
Improved animal husbandry practices	67	74 44	22	24 44	1	1 10
Any one or more of the following Vermi composting/Medicinal plants and fruit crops/Bee keeping /Mushroom production/Nursery management	13	14 44	72	80 00	5	5 56
Integrated Pest and disease management	68	75 56	17	18 89	5	5 56
Farm mechanization	7	7 78	39	43 33	44	48 89

From Table 4 17 it is heartening to note the high percentage of respondents who had fully adopted the practices taught to them at the training programme at CTI, Mannuthy Organic and eco friendly farming practices (89%), Integrated Pest and disease management (76%) and Improved animal husbandry practices (74%) It was also equally heartening to note the high percentage of respondents who had partially adopted the practices taught to them at the training programme at CTI, Mannuthy vermi composting, medicinal plants, fruit crops, bee keeping, mushroom production and nursery management (80%), processing and value addition techniques (59 %) Farm mechanization however was not adopted by 49 per cent of the respondents However 43 per cent were able to adopt farm mechanization practices partially and only 8 per cent were able to adopt farm mechanization practices fully Different

processing and value addition practices partially adopted by the respondents were mango and tamarind pickle making, preparation of leaf plates, preparation of paper bags, processing of cashew and mango and value addition of ginger, turmeric and cocoa

Table 4.18: Previous Training Exposure

Sl. No	Frequency of attending training at CTI, Mannuthy	Frequency	Percentage
1	Once	74	82 22
2	Twice	11	12 22
3	Thrice	5	5 56

Table 4 18 reveals that the majority (82%) of respondents attended the training at CTI, KAU only once Twelve per cent attended the training at CTI, KAU twice and six percent attended the training at CTI training thrice

Only five of the 90 respondents had previous training exposure before coming for training to CTI, Mannuthy One of the respondents had attended 4 training programmes previously, while the remaining 4 had attended either 1 to 3 training programmes previously

In the tables that follow n = 60 as already explained in methodology chapter under data collection and sampling procedure

Table 4.19. Training Rigour

Training Rigour	Frequency	Percentage
Low (< 25 8)	6	10 00
Medium (25 30 2)	48	80 00
High (>30 2)	6	10 00

From Table 4 19 it is understood that training was perceived as rigorous by most of the respondents (80%)

Fig 1 Post training adoption of Organic and eco friendly farming practices

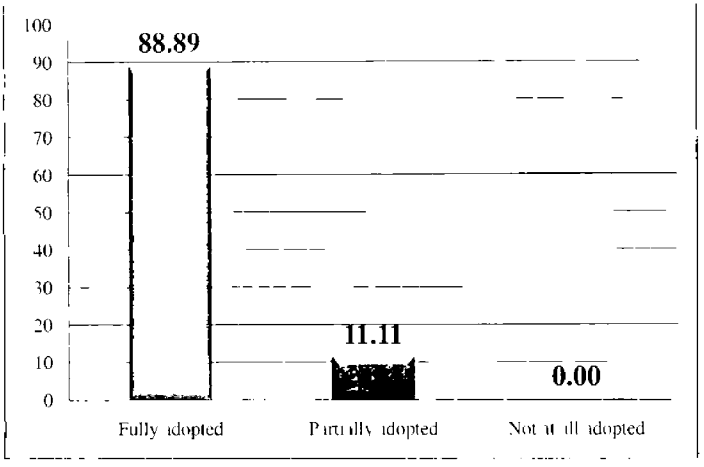

Fig 2 Post training adoption of Processing and value addition techniques

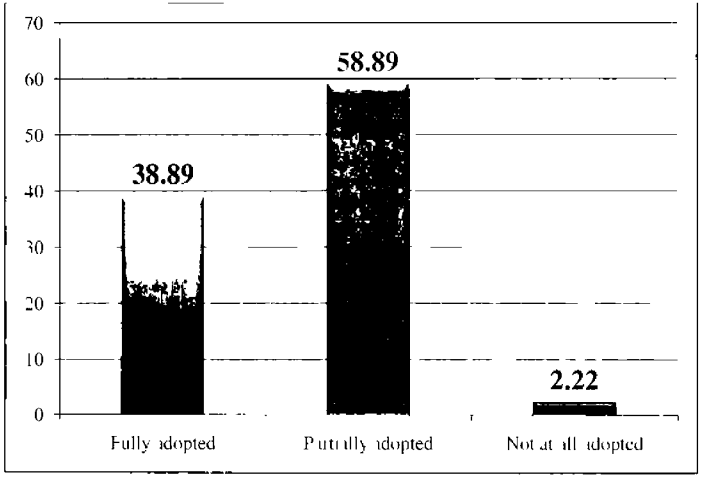

Fig 3: Post training adoption of Improved Animal Husbandry Practices

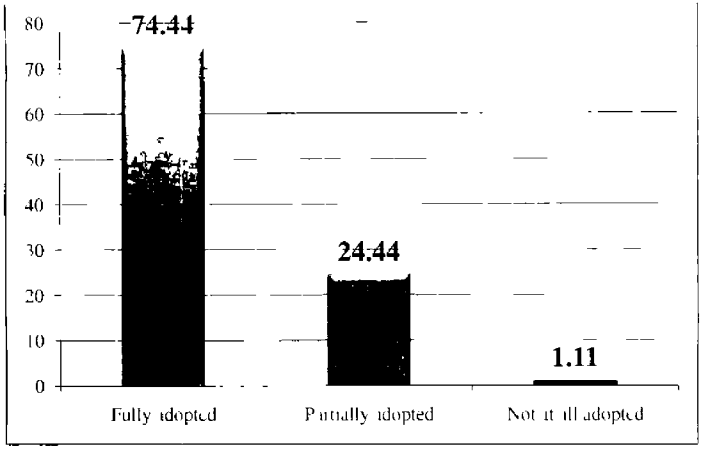

Fig 4 Post training adoption of any one or more of the following Vermi composting/Medicinal plants and fruit crops/Bee keeping /Mushroom production/Nursery management

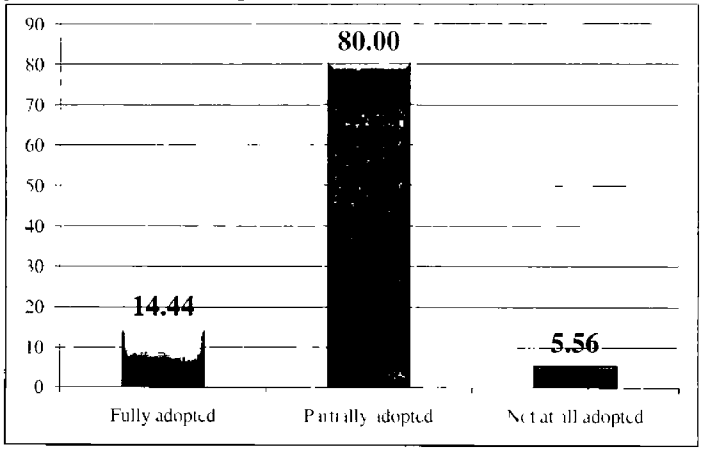

Fig 5 Post training adoption of Integrated Pest and Disease Management

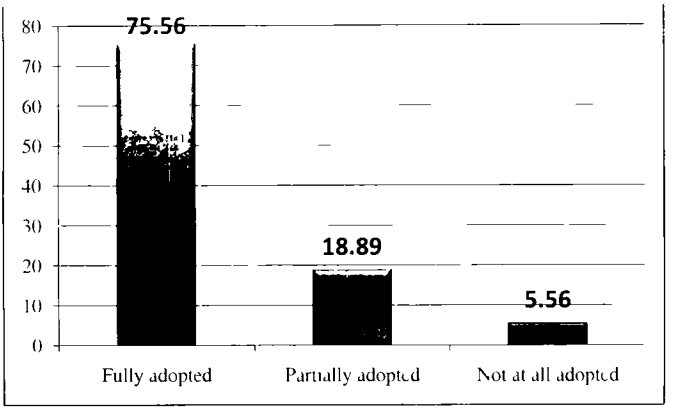

Fig 6 Post training adoption of Farm Mechanization

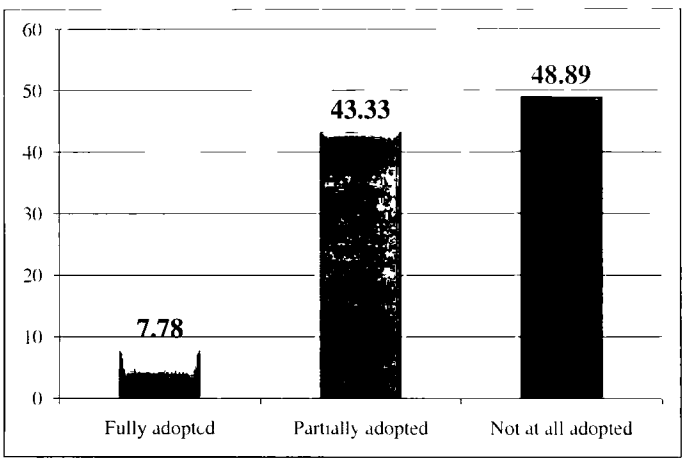

Table 4.20: Training Expectations

Training Expectations	Frequency	Percentage
Low (< 3 0)	Nil	Nil
Medium (3- 4)	60	100
High (>4 0)	Nil	Nil

With respect to the expectations of the trainees regarding the training, Table 4 20 confirms that invariably all the trainees had their expectations met

Table 4.21: Perceived applicability of knowledge gained

Perceived applicability of knowledge gained	Frequency	Percentage
Low (< 2 8)	2	3 30
Medium (2 8 3 9)	31	51 67
High (>3 9)	27	45 00

Table 4 21 affirms that 52 per cent of respondents perceived that the knowledge gained through the training had applicability in their circumstances and 45 per cent respondents highly supported the proposition that they could apply the knowledge gained

Table 4.22: Back home utility

Back home utility	Frequency	Percentage
Low (< 2 5)	9	15 00
Medium (2 5-4 0)	51	85 00
High (>4 0)	Nil	Nil

From Table 4 22 it was evident that 85 per cent of the respondents found the skills/information learned during the training helpful to their day to day work as a facilitator

Table 4.23: Extension Opportunity

Extension Opportunity	Frequency	Percentage
Low (<1 7)	4	6 67
Medium (1 7- 2 2)	56	93 33
High (>2 2)	Nil	Nil

Table 4 23 shows that the majority (93%) of the respondents had opportunity to share information gained to others

Table 4.24: Anticipated impact of training

Anticipated impact of training	Frequency	Percentage
Low (<1 8)	2	3 30
Medium (1 8 2 8)	38	63 3
High (>2 8)	20	33 3

As to the extent to which the respondents expect that the training would make a difference in the way they did their job, Table 4 24 reveals that 63 per cent had a medium level of expectation, 33 per cent had a high level of expectation and only a mere 3 per cent had a low level of expectation

Table 4.25: Usefulness of training

Usefulness	Frequency	Percentage
Low (<1 9)	Nil	Nil
Medium (1 9 3)	60	100
High (>3)	Nil	Nil

Table 4 25 confirms that the training was invariably useful for all the respondents

Table 4.26: Relationship between adoption and independent variables

Sl No	Factors	Correlation Coefficient	Level of Significance*
1	Age	0 180*	0 089
2	Educational Qualification	0 080 ^{NS}	0 455
3	Years of experience in PREM	0 077 ^{NS}	0 470
4	Additional Occupation	0 077 ^{NS}	0 473
5	Farming Experience	0.201*	0 057

6	Land Owned	**0.362****	0 001
7	Land Cultivated	**0.340****	0 001
8	Annual Income	0 040 NS	0 954
9	Social Participation	0 166 NS	0 117
10	Extension Agency Contact	**0.258****	0 014
11	Motivation	0 043 NS	0 687
12	Aspiration	0 134 NS	0 134
13	Predisposition for Change	0 052 NS	0 629
14	Orientation towards scientific and modern agricultural practices	0 183 NS	0 305
15	Previous training exposure	0 005 NS	0 589

*Exact levels of significance have been given as per the directions of statistician for greater precision

Results furnished in Table 4 26 show that the land owned and land cultivated had a positive and significant relationship with adoption at 1 per cent level of probability Extension agency contact had a positive and significant relationship with adoption at 1 4 per cent level of probability Farming experience had a positive and significant relationship with adoption at 5 7 per cent level of probability Age had a positive and significant relationship with adoption at 8 9 per cent level of probability The remaining independent variables had no significant relationship with adoption

Table 4.27: Relationship between training rigour and independent variables

Sl No	Factors	Correlation Coefficient	Level of Significance
1	Age	0 112 NS	0 394
2	Educational Qualification	0 186 NS	0 155
3	Years of experience in PREM	0 018 NS	0 894
4	Additional Occupation	0 022 NS	0 865
5	Farming Experience	0 150 NS	0 254
6	Land Owned	0 170 NS	0 194
7	Land Cultivated	0 030 NS	0 822
8	Annual Income	0 067 NS	0 611
9	Social Participation	0 079 NS	0 546
10	Extension Agency Contact	0 200 NS	0 126
11	Motivation	0 126 NS	0 336
12	Aspiration	0 032 NS	0 811

13	Predisposition for Change	-0 054 NS	0 681
14	Orientation towards scientific and modern agricultural practices	**-0 307****	0 017
15	Previous training exposure	**0 259****	0 046

From Table 4 27 it is clear that orientation towards scientific and modern agricultural practices had a negative and significant relationship with training rigour at 1 7 per cent level of probability and while the remaining independent variables had no significant relationship with training rigour

Table 4.28: Relationship between knowledge gain and independent variables

Sl. No.	Factors	Correlation Coefficient	Level of Significance
1	Age	0 002 NS	0 991
2	Educational Qualification	0 042 NS	0 961
3	Years of experience in PREM	0 089 NS	0 430
4	Additional Occupation	0 007 NS	0 955
5	Farming Experience	0 041 NS	0 758
6	Land Owned	0 084 NS	0 761
7	Land Cultivated	0 075 NS	0 945
8	Annual Income	0 118 NS	0 217
9	Social Participation	0 081 NS	0 540
10	Extension Agency Contact	0 102 NS	0 304
11	Motivation	0 073 NS	0 579
12	Aspiration	0 137 NS	0 499
13	Predisposition for Change	0 016 NS	0 903
14	Orientation towards scientific and modern agricultural practices	**-0.296****	0 022
15	Previous training exposure	0 046 NS	0 727

Table 4 28 revealed that among different independent variables only orientation towards scientific and modern agricultural practices had a negative and significant relationship with knowledge gain at 2 2 per cent level of probability

Table4.29: Relationship between training expectations and independent variables

Sl. No.	Factors	Correlation Coefficient	Level of Significance
1	Age	0 180 NS	0 169
2	Educational Qualification	0 121 NS	0 358
3	Years of experience in PREM	0 080 NS	0 544
4	Additional Occupation	0 075 NS	0 568
5	Farming Experience	0.236*	0 069
6	Land Owned	-0 209 NS	0 109
7	Land Cultivated	0 175 NS	0 181
8	Annual Income	0 091 NS	0 487
9	Social Participation	0 053 NS	0 690
10	Extension Agency Contact	0 009 NS	0 946
11	Motivation	-0 091 NS	0 490
12	Aspiration	-0 028 NS	0 832
13	Predisposition for Change	0 080 NS	0 545
14	Orientation towards scientific and modern agricultural practices	0 091 NS	0 487
15	Previous training exposure	-0 018 NS	0 894

From Table 4 29 it is seen that farming experience had a positive and significant relationship with training expectations at 6 9 per cent level of probability while the remaining independent variables had no significant relationship with training expectations

Table 4.30: Relationship between perceived applicability of knowledge gained and independent variables

Sl. No	Factors	Correlation Coefficient	Level of Significance
1	Age	0 023 NS	0 860
2	Educational Qualification	0 147 NS	0 262
3	Years of experience in PREM	0 169 NS	0 196
4	Additional Occupation	0 206 NS	0 114
5	Farming Experience	0 014 NS	0 915
6	Land Owned	0 174 NS	0 183
7	Land Cultivated	0 190 NS	0 145
8	Annual Income	0 086 NS	0 515

9	Social Participation	-0 145 ^{NS}	0 269
10	Extension Agency Contact	0 128 ^{NS}	0 328
11	Motivation		
	Power Motivation	- 0 364***	0 001
	Affiliation Motivation	-0 097 ^{NS}	-0 164
	Achievement Motivation	0 461 ^{NS}	0 210
12	Aspiration	0 032 ^{NS}	0 809
13	Predisposition for Change	-0 013 ^{NS}	0 921
14	Orientation towards scientific and modern agricultural practices	0 029 ^{NS}	0 826
15	Previous training exposure	0 077 ^{NS}	0 558

Results furnished in the Table 4 30 show that power motivation had a negative and significant relationship with the perceived applicability of knowledge gained at one per cent level of probability while the remaining independent variables had no significant relationship with perceived applicability of knowledge gained

Table 4.31: Relationship between back home utility and independent variables

Sl. No.	Factors	Correlation Coefficient	Level of Significance
1	Age	0 027 ^{NS}	0 836
2	Educational Qualification	0 181 ^{NS}	0 165
3	Years of experience in PREM	0 021 ^{NS}	0 873
4	Additional Occupation	0 000 ^{NS}	0 997
5	Farming Experience	0 015 ^{NS}	0 907
6	Land Owned	0 197 ^{NS}	0 131
7	Land Cultivated	0 135 ^{NS}	0 305
8	Annual Income	0 023 ^{NS}	0 864
9	Social Participation	-0 155 ^{NS}	0 238
10	Extension Agency Contact	0 064 ^{NS}	0 628
11	Motivation	0 045 ^{NS}	0 733
12	Aspiration	0 042 ^{NS}	0 750
13	Predisposition for Change	0 061 ^{NS}	0 645
14	Orientation towards scientific and modern agricultural practices	0 003 ^{NS}	0 982
15	Previous training exposure	-0 305**	0 018

Table 4 31 reveals that previous training exposure had a negative and significant relationship with the back home utility at 1 8 per cent level of probability while the remaining independent variables had no significant relationship with back home utility

Table 4.32: Relationship between extension opportunity and independent variables

Sl No	Factors	Correlation Coefficient	Level of Significance
1	Age	0 136 NS	0 299
2	Educational Qualification	0 176 NS	0 177
3	Years of experience in PREM	0 131 NS	0 319
4	Additional Occupation	0 146 NS	0 265
5	Farming Experience	0 084 NS	0 523
6	Land owned	0 181 NS	0 167
7	Land cultivated	0 190 NS	0 146
8	Annual Income	0 443***	0 000
9	Social Participation	0 025 NS	0 850
10	Extension Agency Contact	0 028 NS	0 834
11	Motivation	0 048 NS	0 716
12	Aspiration	0 030 NS	0 820
13	Predisposition for Change	0 156 NS	0 235
14	Orientation towards scientific and modern agricultural practices	0 079 NS	0 550
15	Previous Training Exposure	0 000 NS	1 000

From Table 4 32 it is evident that annual income had a negative and significant relationship with extension opportunity at 1 per cent level of probability while the remaining independent variables had no significant relationship with extension opportunity

Table 4.33: Relationship between anticipated impact of training and independent variables

Sl. No.	Factors	Correlation Coefficient	Level of Significance
1	Age	0 029 ^{NS}	0 826
2	Educational Qualification	0 122 ^{NS}	0 353
3	Years of experience in PREM	0 010 ^{NS}	0 937
4	Additional Occupation	0 167 ^{NS}	0 203
5	Farming Experience	0 059 ^{NS}	0 657
6	Land Owned	**0 244***	0 060
7	Land Cultivated	**0 242***	0 063
8	Annual Income	0 200 ^{NS}	0 126
9	Social Participation	-0 048 ^{NS}	0 717
10	Extension Agency Contact	0 045 ^{NS}	0 735
11	Motivation	**0 275****	0 034
12	Aspiration	0 182 ^{NS}	0 163
13	Predisposition for Change	0 025 ^{NS}	0 850
14	Orientation towards scientific and modern agricultural practices	0 001 ^{NS}	0 992
15	Previous training exposure	0 014 ^{NS}	0 914

Results furnished in Table 4 33 reveal that motivation had a positive and significant relationship with anticipated impact of training at 3 4 per cent level of probability Land owned and land cultivated had a positive and significant relationship with anticipated impact of training at 6 per cent level of probability The remaining independent variables had no significant relationship with anticipated impact of training

Table 4.34: Relationship between usefulness of training and independent variables

Sl No.	Factors	Correlation Coefficient	Level of Significance
1	Age	0 192 ^{NS}	0 142
2	Educational Qualification	0 227 ^{NS}	0 081
3	Years of experience in PREM	-0 163 ^{NS}	0 212
4	Additional Occupation	-0 100 ^{NS}	0 445
5	Farming Experience	-0 116 ^{NS}	0 377

6	Land Owned	0 021 ^{NS}	0 875
7	Land Cultivated	0 006 ^{NS}	0 961
8	Annual Income	0 062 ^{NS}	0 640
9	Social Participation	0 010 ^{NS}	0 942
10	Extension Agency Contact	0 014 ^{NS}	0 917
11	Motivation	0 059 ^{NS}	0 656
12	Aspiration	0 044 ^{NS}	0 739
13	Predisposition for Change	0 052 ^{NS}	0 695
14	Orientation towards scientific and modern agricultural practices	0 171 ^{NS}	0 192
15	Previous training exposure	0 150 ^{NS}	0 253

Table 4 34 shows that independent variables had no significant relationship with usefulness of training

Table 4.35: Association between gender and usefulness of the training

Gender	Usefulness of the training	
	Useful	Most Useful
Male	21	13
Female	9	17
Chi square value 4 438**		
Level of significance 0 034		

Table 4 35 shows that female gender has an association with usefulness of the training at 3 4 per cent level of probability The training was found to be most useful by women

Table 4.36: Wilcoxon signed rank Test to assess knowledge gain of the trainees

Sl No.	Parameters	Mean Rank +		Z value+++
		Negative	Positive	
1	Knowledge gain through training	0 00++	29 00	6 642

+- Ranking based on the difference of scores as 'knowledge level after training – knowledge level before training'

++- Basis for the calculation of test statistics

+++- Z value computed from Wilcoxon signed rank test

From Table 4 36 it was clear that all the respondents gained knowledge through the training

Table 4.37: Kruskal-Wallis one-way Anova test*

Sl. No.	Parameter	Mean rank			Chi-Square value	Level of significance
		2011 -12 n=59	2012 -13 n=51	2013 14 n=60		
1	Motivation	52 37	65 39	52 35	3 928 ^{NS}	0 140
2	Aspiration	54 66	56 85	56 85	0 129 ^{NS}	0 937
3	Predisposition for change	56 63	54 15	56 82	0 155 ^{NS}	0 926
4	Orientation towards scientific and modern agricultural practices	54 10	48 98	64 08	4 115 ^{NS}	0 128
5	Training Rigour	41 22	46 28	32 74	3 436 ^{NS}	0 179
6	Training Expectations	41 81	39 44	41 44	0 216 ^{NS}	0 898
7	Perceived applicability of knowledge gained	39 95	46 90	34 74	3 678 ^{NS}	0 159
8	Back Home Utility	42 69	43 40	33 59	2 521 ^{NS}	0 284

*n values vary for each year as the number of participants attended training each year varied

From Table 4 37 it is clear that there is no significant difference in motivation, aspiration, predisposition for change, orientation towards scientific and modern agricultural practices, training rigour, training expectations, perceived applicability of

knowledge gained and back home utility among respondents attended the training in different years 2011-12, 2012 13 and 2013-14

Table 4.38: Kruskal-Wallis on -way Anova test*

Sl No	Parameter	Mean rank			Chi-Square value	Level of significance
		Number of times training attended				
		Once n=74	Twice n=11	Thrice n=5		
1	Motivation	47 31	52 82	58 00	1 064 ^{NS}	0 587
2	Aspiration	44 86	65 27	69 90	**8 833****	0 012
3	Predisposition for change	47 81	52 27	51 20	0 318 ^{NS}	0 853
4	Orientation towards scientific and modern agricultural practices	47 31	51 68	60 60	1 286 ^{NS}	0 526
5	Training Rigour	35 94	28 36	26 60	2 197 ^{NS}	0 333
6	Training Expectations	33 74	37 32	29 40	0 814 ^{NS}	0 666
7	Perceived applicability of knowledge gained	34 54	25 55	47 10	**5 661***	0 059
8	Back Home Utility	36 35	25 09	29 60	3 904 ^{NS}	0 142

*n values vary for each year as the number of participants attended training each year varied

From Table 4 38 it is evident that the level of aspiration was significantly higher at 1 2 per cent level of probability for the respondents who attended the training three times Perceived applicability of knowledge gained was significantly higher at 5 9 per cent level of probability for the respondents who attended the training three times There was no significant difference in the motivational drive, predisposition for change and orientation towards scientific and modern agricultural practices, training rigour, training expectations and back home utility of respondents based on the number of times that they attended the training programme

Table 4.39: Kendall's Coefficient of Concordance test on usefulness rating of topics covered in training

Sl. No.	Parameters	Mean Rank
1	Mushroom production	15 70
2	Bee keeping	13 72
3	Making of eco-friendly products	13 13
4	Farm mechanization	13 02
5	Cultivation of fruits	12 86
6	Processing technology	12 66
8	Vermicomposting	11 09
9	Visit to veterinary hospital	10 26
10	Poultry farming	9 86
11	Goat farming	9 79
12	Cultivation of ginger and turmeric	9 49
13	Dairy products	9 14
14	Meat technology	8 92
15	Pig rearing	8 80
16	Integrated pest management	8 56
17	Visit to cattle research station	8 13
18	Medicinal plants	6 77
19	Tissue culture	5 77
Kendall's W+ 0 200 Sig++ 0 000		

\+ Kendall's Coefficient of Concordance

++ Percentage of Significance

Results presented in the Table 4 39 show that the respondents' ranked mushroom technology as the most useful topic covered in the training with a mean rank of 15 70, followed by beekeeping, making of eco friendly products and farm mechanization with a mean ranks of 13 72, 13 13 and 13 02 respectively Tissue culture was ranked as the least useful topic by the trainees

Table 4.40: Perceived Importance of topics covered in training

Sl No	Most important topic			Least important topic		
	Topics	Frequency	Percentage	Topics	Frequency	Percentage
1	Mushroom production	23	38 33	Diary product	20	33 33
2	Vermicomposting	17	28 33	Tissue culture	19	31 67

Table 4 40 reveals the most important and least important topics perceived by the respondents The most important topic perceived by the respondents were mushroom production (23%) and vermi-composting (17%) The topics perceived as least important by the respondents were dairy products (33%) and tissue culture (32%)

Table 4.41: Post Training Need Analysis by respondents

Sl No	Training Content	Frequency	Percentage
1	Medicinal plants	16	26 67
2	Fish culture	13	21 67
3	Tissue culture lab visit	10	16 67
4	Maize cultivation	8	13 33
5	Mango cultivation	7	11 67
6	Cashew apple processing	7	11 67
7	Rubber cultivation	7	11 67

Table 4 41 gave us an idea about topics perceived by the respondents as most important for necessary inclusion in future training programmes medicinal plants (27%), fish culture (22%), tissue culture lab visit (17%) and mango cultivation, cashew apple processing and rubber cultivation (12%)

Table 4.42: SWOC Matrix Analysis

		Strategic Options																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Treatments	1	10	9	6	8	10	3	5	10	8	6	6	10	10	10	8	10	10	5	10
	2	10	9	5	7	10	7	10	9	9	4	5	10	10	9	6	10	10	9	10
	3	6	8	7	5	9	3	10	9	10	5	8	10	10	10	5	10	10	9	10
	4	8	10	4	10	4	8	7	8	9	6	7	6	9	10	6	5	8	8	5
	5	6	7	9	7	3	8	5	7	8	3	8	6	7	9	7	8	5	3	6
	6	8	8	10	8	8	6	9	7	8	9	6	8	9	9	7	8	6	7	6
	7	8	8	10	9	9	5	9	8	9	10	6	9	9	9	7	8	8	8	7
	8	5	6	2	9	7	7	8	4	8	2	4	3	5	6	3	6	4	9	3
	9	8	9	4	9	5	10	9	9	9	8	5	10	10	7	4	10	10	9	8
	10	8	6	10	3	8	3	6	3	7	5	7	7	7	8	3	7	8	4	7
	11	3	2	1	2	10	1	1	2	6	4	1	5	2	5	2	10	7	1	8
	12	3	5	2	5	4	2	7	6	8	1	2	4	4	5	8	4	5	3	7
	ST	83	87	70	82	87	63	86	82	99	63	65	88	92	97	66	96	91	75	87
	13	8	9	9	4	9	3	5	3	8	3	3	10	8	8	4	9	8	8	9
	14	5	6	8	3	9	7	4	2	6	6	4	4	4	6	9	8	6	7	8
	15	7	8	8	4	7	9	8	5	8	9	8	4	5	8	6	8	5	8	8
	16	8	6	4	6	8	3	9	8	7	4	3	3	7	3	3	4	3	9	2
	ST	28	29	29	17	33	22	26	18	29	22	18	21	24	25	22	29	22	32	27
	BAL	55	58	41	65	54	41	60	64	70	41	47	67	68	72	44	67	69	43	60

ST Subtotal BAL – Balance

Table 4 42 gives the weightings on a 10 point scale assigned by the researcher in consultation with experts For convenience of comprehension, the factors represented by the alpha alphabets are indexed below

Strengths - Internal Positive Factors (IPFs)

A Highly competent Resource personnel

B Sufficient emphasis on practical training

C Post training consultation and hand holding

D Focus on crop specific input

E Capability to provide national and international training programs

F Existence of centre of excellence such as Centre for Plant Biotechnology and Molecular Biology/Cashew Research Station/Agricultural Research Station

G Wide range of topics were covered

H Resource persons with up to-date knowledge

I Highly effectual transfer of knowledge, attitude and skills

J Cultural integration

K Building of self esteem, confidence, leadership and team work

Weaknesses – Internal Negative Factors (INF's)

L Boarding and transportation facilities were not up to the mark

M The number of resource persons and support staff was inadequate

N Specific Training Need Analysis was not done separately for each batch of participants nominated for training

O Marketing sessions were not included in the training

P Lack of e-training facilities

Q HRD training for support staff and Quality Improvement Programs (QIP) for resource persons were not enough

R Lack of faculty for integrated farming as a result of trifurcation of Kerala Agricultural University

S Master trainers have not been given sufficient international training exposure

Opportunities - External Positive Factors (EPF's)

1 Explore possibility for conducting international training in areas such as cashew apple processing and low cost waste management for underdeveloped countries

2 Upgrade CTI as an International Research and Development Institute for Human Resources in Farm Sciences with programmes for South Asia and African countries in collaboration with FAO

3 Upgrade CTI as a Centre of Excellence in Human Resources in Farm Science

4 Replication of scientific cultivation practices learned at CTI to larger areas of land

5 Enhancing entreprencurship of those already trained in crop and animal husbandry

6 Explore the possibility of replicating the CTI-KAU PREM Axis Bank Foundation model in other states of India

7 Explore the possibility of replicating similar training programmes for other backward areas of Odisha

8 Explore the possibility of showcasing various farming systems practiced in Kerala

9 Explore the possibility of starting a separate training institute in KAU with an exclusive mandate for transfer of technology to rural areas on a mission mode

10 Enhancing KAU's training infrastructure to maximize the full utilization of the excellent resource personal available in KAU

11 Initiate systems for online booking and tailor made tour cum training cum farm stay packages for clients from European countries

12 Set up a separate unit for the standardization, branding and marketing of organic formulations

Challenges– External Negative Factors (ENF's)

13 Financial allocation and infrastructural support given for training in KAU is far from sufficient Part of the developmental grant must be diverted for this mandatory activity

14 Insufficient sponsors – more corporate should follow the example of Axis Bank Foundation in fulfilling their Corporate Social Responsibility

15 Lack of innovative approach from the part of policy makers

16 Trifurcation of the Kerala Agricultural University – resulted in the segregation of veterinary and fisheries faculty preventing wholesome farming system approach in training

By subtracting the subtotal of positive statements (IPF's, INF's and EPF's) from the sub total of the negative statements (ENF's) balanced strategic option scores were obtained The balance scores ranged from 55 to 72 From the table, strategic options with scores of 65 and above were taken as best strategic options

The seven strategic options with scores of 65 and above are listed below

1 Undertake batch specific Training Need Analysis (72)
2 Highly effectual transfer of knowledge, attitude and skills should be ensured (70)
3 Provide HRD training for support staff and Quality Improvement Programs for resource persons of KAU (69)
4 Enhance the number of resource persons and support staff appointed (68)
5 Boarding and transportation facilities at CTI may be improved (67)
6 Develop e-training facilities (67)
7 Focus on crop specific input (65)

Suggestions by the stakeholders

The suggestions for ways and means of improving training activities of KAU received from the stakeholders were obtained and consolidated with cross-references in Appendix I but to avoid redundancy, the same is detailed in the discussion chapter

DISCUSSION

V. Discussion

This chapter attempts to answer the questions about what do the results mean and how do they relate to what is already known The primary purpose is to show relationship among observed facts To reinforce the discussion actual cases of post training impact have been interjected as insets

Profile Characteristics of Respondents

The results presented in Table 4 1, the sponsoring agency has taken care to ensure even distribution with respect to age in deputing candidates for training There was an approximately sixty-forty male female ratio in the candidate deputed

From Table 4 2 it was seen that with regard to education also, there was an uneven spread ranging from below matriculation to post graduation among candidates deputed for training

Results furnished in Table 4 3 show even distribution of respondents based on their years of experience in PREM The sponsoring agency has taken care to ensure a careful mix of novices and some with many years of experience in PREM

Table 4 4 shows that majority (63%) of the respondents were self employed although 20 per cent of them had no other additional occupation Respondents were not employed in government jobs, but 14 per cent of them had other jobs as additional occupation This implies that most of those deputed for training were destined to make a living from their self employment and work as facilitators in PREM

Inset 5.1

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Case in Focus - Post Training Impact: Anjana Sabar

- Parimala, Parimal P O via R Udyagiri, Gajapati, Pin 765025
- Adopted Mushroom cultivation

- Adopted Vegetable Cultivation in 1 acre of land
- Adopted SRI method in 2 acres of paddy
- Adopted composting technique in 2 pits
- She initiated vaccination of 800 animals in Panmala panchayath
- She also imparted training to 8 Self Help Groups each consisting of 20 members in mushroom cultivation, mango and tamarind pickle makin
- She imparted training for 150 women on paper bag making

==========

With respect to farming experience, Table 4 5 implies that the respondents were evenly distributed-varying from two years to above twelve years of farming experience The sponsoring agency has ensured a wide range of farming experience in the selection of candidates nominated for the training so as to mix new blood with hard baked familiarity

Results furnished in Table 4 6 indicates wide disparity among respondents with respect to size of land owned – ranging from two per cent who were landless to 21 per cent who owned above four acres of land The wide disparity among respondents with respect to size of land owned must have challenged KAU's resource personnel to pass on technology that was viable for both landless and land rich trainees

Inset 5.2

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Case in Focus - Post Training Impact: Diklash Gomango

- Engerda, Badakalakote P O via Gumma, Gajapati, Pin -761207
- He completely stopped using chemicals for paddy cultivation Instead he has adopted neem oil based formulation
- He has planted 20 trees of *Banganapalli* variety mango
- For the first time the practice of mulching was adopted
- He cultivated ginger in 5 acres of barren community land

Findings shown in Table 4 7 may imply that at least part of the success of the programme can be attributed to the fact that invariably all the candidates deputed for training had some actual farming experience

Results presented in Table 4 8 showed that on an average, the annual income of the respondents was in the range of Rs 30,000/- to above Rs 79,000/ Given the cost of living in Odisha the income levels of those deputed for trainings seemed reasonable

Crops Cultivated by the respondents

From Table 4 9 it is seen that majority (86%) of the respondents were involved in paddy cultivation Fifty four per cent of respondents cultivated vegetables and 39 per cent of them plantation crops Other crops cultivated were pulses (27%), maize (18%), fruit crops (11%) While paddy, vegetables and plantation crop cultivation are common for Kerala, the trainees would have been exposed to several new crops and new farming systems during their exposure to Kerala

Inset 5.3

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Case in Focus - Post Training Impact: Geeta Rani Dora

- Mohana, Mohana P O, Gajapati, Pin -761015
- 10 acres of barren community land has been converted into *Banganapalli* variety mango orchard with seedlings from Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)
- 10 acres of barren community land has been converted into ginger cultivation
- 2 acres of barren community land has been converted into turmeric cultivation
- 27 compost pits have been started
- About 300 animals have been vaccinated

- She trained 250 home makers in making paper bags, kitchen garden, mushroom cultivation, preparation of leaf plates, pest and disease management and composting techniques
- Personally she started vegetable cultivation on 50 cents of land
- She has also started a nursery with 50 jack fruit, 50 papaya, 25 mango and 50 drumstick saplings

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Animal Husbandry

Table 4 10 revealed that the majority (90%) of the respondents were involved in poultry rearing Sixty four per cent of respondents owned oxen, 59 per cent owned cows and 39 per cent were engaged in goat rearing Six per cent of respondents were engaged in piggery and only 4 per cent reared buffaloes The appropriate inclusion of several training sessions in animal husbandry stands justified from the finding that majority of the trainees were actually involved in animal husbandry

Social Participation

From Table 4 11 it is evident that the training at CTI, KAU may have contributed to an increased social participation of the respondents as 16 per cent of the respondents became involved in the activities of organizations other than PREM after the training at CTI, KAU The training seems to have created awareness of other organizations and that awareness may have significantly contributed to the possibility of networking and synergy being deeply imbibed by the trainees as is evident from the increased social participation post training

Extension Agency Contact

Results furnished in Table 4 12 show that the majority of respondents had occasional contact (once a month) with Agricultural Officer (67%) and Veterinary

Officer (58%) Majority (70%) of respondents never contacted a University Scientist Contact with an NGO expert was rather uniformly distributed Most (83%) of respondents had no contact with any other source for technical help or advice Extension Agency Contact of the respondents with the Agricultural Officer and Veterinary Officer is satisfactory Insight into why there was zero contact with a University Scientist, despite the presence of a State Agricultural University in Odisha was obtained from the remarks of one of the Expert Review Team members who visited Odisha to have a firsthand evaluation of the ground realities The insight embedded in the quote at the beginning of this thesis

Inset 5.4

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Case in Focus - Post Training Impact: Prafulla Pradhan

- Balumaha, Guttingia PO, via Sarangada, Kandhamal, Pin- 762106
- 24 acres of barren community land was converted into cashew plantation with seedlings from the Department of Soil Conservation
- 15 acres of barren community land was converted into mango plantation with seedlings from the Department of Horticulture
- Adopted SRI method of cultivation in 2 acres of Paddy
- Started bee keeping – 2 hives
- Adopted intercropping of elephant foot yam, ginger, turmeric and banana in newly planted mango orchard

==========

Motivation

Table 4 13 shows that the 58 per cent of respondents had a drive towards power and influence over people as a facilitator in PREM Working as a facilitator in PREM provided affiliation motivation in terms of good relations and social contact for 60 per cent of respondents Achievement motivation was medium for 53 per cent and

high for 44 per cent The Three Needs Theory of motivation proposed by the psychologist McClelland (1988), is a motivational model attempted to explain how the needs for achievement, power and affiliation affect the actions of people McClelland theorized that we all have these three drives of motivation regardless of age, sex, race or culture This seems to be validates in this study also People with high affiliation motive prefer to spend time creating and maintaining social relationships, enjoy being a part of groups, and have desire to feel loved and accepted People with high power motivation enjoy work and place a value on discipline People with high achievement motivation prefer working on tasks of moderate difficulty, prefer work in which the results are based on their effort rather than anything else and prefer to receive feedback on their work

Aspiration

From Table 4 14 it was evident that majority (70%) of respondents had medium level of aspiration while 17 per cent of respondents had low aspiration level It is rather surprising that only 13 per cent of respondents had a high level of aspiration Aspiration in excess may lead to over enthusiasm and aspirants may in the process stumble when they run too fast Aspiration in moderation may have the benefit of steady perseverance that finally contributes to success Whether the candidates were selected taking this into account or not has not been verified, and irrespective of whether the answer to that question is 'yes' or 'no', wisdom seems to have prevailed in the selection process

Predisposition for Change

Table 4 15 indicates that majority (81%) of the respondents felt the need for a change in agricultural practices in their villages Ten per cent of respondents were highly predisposed for change in their farming scenario while only 9 per cent respondents were disinclined towards change This finding underscores that if the ground is well prepared, the seed when sown will yield fruit manifold The fact that

the vast majority of the respondents had a deeply felt need for change in agricultural practices in their villages clearly implies that they were prepared to receive input in terms of training

Inset 5.5

Case in Focus - Post Training Impact: Nahasan Majhi

- Pataeguda, Anuguno P O via R Udayagiri, Gajapati, Pin 761016
- SRI method was adopted in 2 acres of paddy
- He planted 100 cashew samplings and 100 mango saplings with maize cultivated as intercrop
- SRI method was adopted in 12 acres of community land
- The crop was so good that they received an award from the District Agricultural Officer
- Converted 2 acres of maize into ginger cultivation
- He was previously unaware of the need for vaccination for his 30 cows, 30 goats and 10 buffalos
- After learning about vaccination, all animals had been vaccinated for foot and mouth disease

Orientation towards scientific and modern agricultural practices

Results furnished in Table 4 16 show that 60 per cent of respondents were well oriented towards modern and scientific agricultural practices Twenty five per cent of respondents were highly oriented to scientific and modern agricultural practices while 15 per cent of respondents had low orientation towards scientific and modern agricultural practice The emphasis in this particular training programme was definitely biased towards organic, eco-friendly and sustainable agricultural practices

Issue is raised as to whether this mode is perceived as scientific and modern or a reversion to age old traditional agriculture

Adoption

From Table 4 17 it is heartening to note the high percentage of respondents who had fully adopted the practices taught to them at the training programme at CTI, Mannuthy Organic and Eco friendly farming practices (89%), Integrated Pest and Disease Management (76%) and Improved Animal Husbandry practices (74%) It was also equally heartening to note the high percentage of respondents who had partially adopted the practices taught to them at the training programme at CTI, Mannuthy vermi composting, medicinal plants, fruit crops, bee keeping, mushroom production and nursery management (80%), processing and value addition techniques (59%) These findings can stand alone to prove the very premise of this thesis that the training for facilitators of PREM, Odisha conducted at CTI, KAU has been worth every rupee that was spent on it Such high levels of adoption singularly point to the transformatory impact that the training could have in Odisha Farm mechanization however was not adopted by 49 per cent of the respondents Forty three per cent however were able to adopt farm mechanization practices partially and only 8 per cent were able to adopt farm mechanization practices fully That farm mechanization could not be adopted by 49 per cent of the respondents is understandable Obtaining the required farm machinery and having facilities for the repair and maintenance in the remote corners of Odisha were beyond the control of the respondents But this also implies that given the high rates of adoption in areas where they had the means, they would have gone in for farm mechanization on an extensive scale if the other respondents too had the opportunity for the same Here in lie indications of possibility of Axis Bank Foundation and PREM uniting to set up agro service centers where farm machinery can be made available on hire and trained technicians are made available to run the machinery and undertake repair and maintenance as and when required

Inset 5.6

Case in Focus - Post Training Impact: Jamesh Gomango

- Badakalakote, Serang, Gajapati, Pm 761015
- Experimented soil testing for paddy cultivation
- Initiated a demonstration plot on Daincha cultivation prior to paddy crop
- Adopted seed treatment techniques that he learned from the training at CTI and this resulted in a high germination percentage
- Previously he used 40 Kg of seed for a 50 cents plot But now he needed only 1 5 Kg for the same plot
- Organized a Vaccination mela for 2 panchayats covering 400 animals

Training Exposure and Previous Training Exposure

Table 4 18 revealed that the majority (82%) of respondents had attended the training at CTI only once Twelve percent attended the training at CTI twice and six percent attended the training at CTI training thrice Only five of the 90 respondents had previous training exposure before coming for training to CTI, Mannuthy One of the respondents had attended 4 training programmes previously, while the remaining 4 had attended either 3, 2 or 1 training programmes previously The findings clearly indicate that whatever training input that the respondents had received was primarily and almost exclusively from CTI, KAU If just one training programme could make such a positive impact, the scope of the impact of multiple training programmes may be projected in one's imaginations

Training Rigour

From Table 4 19 it was understood that the training was perceived as rigorous by most of the respondents (80%) Institutions working in government sector are

often perceived as being slow and sluggish This however was not the perception expressed about the training conducted at CTI, Mannuthy In specific terms, the training content was well organized and the presentations effective, easy to follow and interesting, the trainers were knowledgeable, the quality of instruction was good, the programme met training objectives, class participation and interaction were encouraged, adequate time was provided for interaction, discussion and clearing doubts, the overall conduct of training was excellent and the accommodation and food facilities were good

Training Expectations

It is next to impossible to meet every ones' expectations but CTI, KAU seems to have done the impossible because the data in Table 4 20 confirms that invariably all the trainees had their expectations met at a medium level

Perceived applicability of knowledge gained

Table 4 21 affirms that 52 per cent of respondents perceived that knowledge gained in the training had applicability in their circumstances and 45 per cent respondents highly supported the proposition that they could apply the knowledge gained Scientists of KAU need to be appreciated for their having been able to package technology in such a manner that it was perceived as highly applicable in the Odisha situation a situation that most scientists who served as resource persons for the training programme have no exposure to

Back home utility

To design a training curriculum with skills and information that would be perceived as helpful to their day to day work by 85 per cent of respondents was evident from Table 4 22 stands to validate the design element in conduct of the training A four-member Expert Review Team from KAU visited to Odisha from 17

to 21 September 2012 and their observations regarding back home utility may be seen from Appendix IV

Inset 5.7

Case in Focus - Post Training Impact: Pankaj Nayak

- Mohana P O , Gajapati, Odisha, Pin 761015
- Convened a meeting of 60 families and sensitized his community on the importance of organic farming
- Practiced mulching for mango and coconut
- Adopted a technique learned from CTI, KAU of using polythene sheets to protect 150 coconut trees from pests
- He planted KAU seeds of bitter guard, chili, brinjal, snakegourd and ladies finger
- The yield was far superior in comparison to the local varieties previously used

Extension Opportunity

Table 4 23 shows that the majority (93%) of the respondents had opportunity to share information gained through training with others Gaining knowledge and skills without opportunity to pass on the same to others can be frustrating and can negate the very purpose of developmental interventions In this case that was not to be Not only did the opportunity exist but also the respondents had the mindset to be willing to part with information and skills gained at the training programme That rural India still has failed to be influenced by the western ideology of self-individualism is a gratifying repose

The Expert Review Team from KAU that visited Odisha for a mid evaluation also took note of the trainees' desire to form farmers' clubs / farmers' organizations, to conduct exposure visits, to prepare projects on agro based activities and to present the same at the gram sabha / panchayats

Anticipated Impact of training

As to the extent to which the respondents expected that the training would make a difference in the way they did their job, Table 4 24 reveals that 63 per cent had a medium level of expectations, 33 per cent had a high level of expectations while only a mere 3 per cent had a low level of expectations Hope is what keeps us all going If there was no hope for respondents that the training would make a difference in the way they did their job, the whole exercise would have been an activity in vain But the data indicates that this was not the scenario for the trainees who had been deputed for the programme

Inset 5.8

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Case in Focus - Post Training Impact: Rajkishore Nayak

- Nidhiapolly, Mujagada PO, via Bhanja Nagar, Ganjam, Pin – 761028
- Undertook soil testing for 12 acres of vegetable cultivated by 40 families
- SRI was followed in 2 acres of paddy
- Started a backyard poultry unit with 50 birds with subsidy from the Government of Odisha
- Started 4 pits of vermi compost, 3 pits were failed because of open field condition and without shade

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Usefulness

Table 4 25 confirms that the training was invariably useful for all the respondents

Inset 5.9

Case in Focus - Post Training Impact: U. Rajendra Dora

- Mohana PO, Manikeswari Street, Gajapati, Pin 761015
- 100 acres of unprofitable shifting cultivation was converted into *Banganapalli* variety mango orchard with seedlings from MGNREGA
- Initiated a 5000 seedling nursery for cashew, drumstick and papaya
- Crop rotation was adopted in 5 villages

Relationship between adoption and independent variables

Results furnished in Table 4 26 show that land owned and land cultivated had positive and significant relationship with the adoption at 1 per cent level of probability It is only natural to expect that willingness to take the risk of adopting new technology will be higher when the land is leased Extension agency contact had a positive and significant relationship with adoption at 1 4 per cent level of probability Farming experience had a positive and significant relationship with adoption at 5 7 per cent level of probability The relevance of extension agency contact stands once again validated in age when clients have many other sources of information The remaining independent variables had no significant relationship with adoption This finding can be an encouragement for the trainer in that training interventions may work without being affected by the filters of most socio-psychological characteristics

Relationship between training rigour and independent variables

From Table 4 27 it is clear that the orientation towards scientific and modern agricultural practices had a negative and significant relationship with training rigour

at 1 7 per cent level of probability At first sight, this result seems perplexing, making one wonder if the fact that the instrument used to measure orientation towards scientific and modern agricultural practices have three positive and negative statements inter mixed to prevent stereotyped responses had confused the respondents But on further thought it may simply mean that those with lower orientation towards scientific and modern agricultural practices found it difficult to cope with the training rigour

Relationship between knowledge gain and independent variables

Table 4 28 revealed that among the different socio-psychological characteristics only orientation towards scientific and modern agricultural practices had a negative and significant relationship with knowledge gain at 2 2 per cent level of probability The finding implies that those with lesser orientation towards scientific and modern agricultural practices gained more knowledge and therefore this only further validates the effectiveness of the training programme

Relationship between training expectations and independent variables

From Table 4 29 it is evident that farming experience had positive and significant relationship with training expectations at 6 9 per cent level of probability while the remaining independent variables had no significant relationship with training expectations Often previous farming experience would dampen training expectations but this was not the case with respect to those who have been deputed for training at CTI, Mannuthy from PREM, Odisha The appropriate selection of candidates with the right mind set to learn may in fact have been the foundation for the subsequent effectiveness of training

Relationship between perceived applicability of knowledge gained and independent variables

Results furnished in the Table 4 30 show that power motivation had negative and significant relationship with the perceived applicability of knowledge gained at one per cent level of probability while the remaining socio-psychological factors had no significant relationship with the perceived applicability of knowledge gained This is well explained that higher power motivation dampened perception of applicability of knowledge gained at the training

Relationship between back home utility and independent variables

Table 4 31 reveals that previous training exposure had a negative and significant relationship with the back home utility at 1 8 per cent level of probability while the remaining independent variables had no significant relationship with back home utility Having attended previous training programmes at KAU and realized from actual experience that translating all that one has learned at the training in the back home situation is not easy, those with previous training exposure at KAU may have contributed to their back home utility scores

Relationship between extension opportunity and independent variables

From Table 4 32 it is evident that annual income had a negative and significant relationship with extension opportunity at 1 per cent level of probability while the remaining independent variables had no significant relationship with extension opportunity A higher annual income implied multiple sources of income or more time consuming activities on the part of the respondents that probably diminished the opportunity to share information

Inset 5.10

Case in Focus - Post Training Impact: Sahadev Sabar

- Anjali, Via Jathili, Padambur, Rayagada, Pin-765025
- Started vegetable cultivation in 1 acre land
- Started fish farming in a 1 acre pond got from MGNREGA
- Trained his fellow farmers on the importance of reduced dependence on chemicals for agriculture

Relationship between anticipated impact of training and independent variables

Results furnished in Table 4 33 reveal that motivation had a positive and significant relationship with anticipated impact of training at 3 4 per cent level of probability Land owned and land cultivated had a positive and significant relationship with anticipated impact of training at 6 per cent level of probability The remaining independent variables had no significant relationship with anticipated impact of training The fact that motivation had a positive and significant relationship with anticipated impact of training gives an insight into the extent of motivation that the respondents had The prospect of being able to apply what was learned at the training programme in one's own land or cultivated land may explain the positive and significant relationship with anticipated impact of training

Relationship between usefulness of training and independent variables

Table 4 34 shows that independent variables had no significant relationship with usefulness of training This result underscores that determinant of usefulness of the training for each respondent were independent from common socio psychological factors

Association between gender and usefulness of the training

Table 4 35 implies that training was found to be more useful by the women Prospects of increasing women candidates may be an option to be considered This tallied with the observation made by the Axis Bank Branch Manager that all the trainees and especially the girls reflected a new confidence towards life, their energy and enthusiasm was very electrifying The programme has made her proud to be part of a system that brought a new lease of life to so many underprivileged girls

Knowledge gain of the trainees and repeated participation

From Table 4 36 it was clear that all the respondents gained knowledge through the training and from Table 4 37 it is clear that there was no significant difference among respondents attended training in different years 2011 12, 2012-13 and 2013 14 On dwelling into the primary data in Table 4 38 it was found that six of the ninety respondents attended the training thrice It is only reasonable to conclude that these six candidates were willing to come again and again for a training programme organized by the same institute simply because they had significantly higher levels of aspirations and higher levels of perceived applicability of knowledge that they gained from the training All these findings are like icing to a cake in proving the undisputed effectiveness of the training for facilitators of PREM, Odisha conducted by CTI, KAU

Inset 5.11

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Case in Focus - Post Training Impact: Prafulla Majhi

- Malli padar, Badakane P O , Mohana, Gajapati, Pin -761015
- Successfully adopted the use of cow dung and urine for pest Management
- Used honey and coconut oil for already diseased animals and found much relief

- Started a goat rearing unit with 22 goats
- He adopted bamboo for the shed design learned from the CTI training

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Kendall's Co-efficient of Concordance test on usefulness rating of topics covered in training

Results presented in the Table 4 39 shows that the respondents' ranked mushroom production as the most useful topic covered in the training with a mean rank of 15 57, followed by beekeeping, making of eco friendly products and farm mechanization with mean ranks of 13 72, 13 13 and 13 02 respectively Tissue culture was ranked as the least useful topic by the trainees The perceived attributes of innovations viz relative advantage, compatibility, trialability, complexity and observability may explain the perception of usefulness by the respondents This finding tallies with the fact that farm mechanization was not adopted by 49 per cent of the respondents as reported earlier under Table 4 17 This finding may also help training planners to ensure that technology with higher attributes of innovations find a significant place in the training content The fact that tissue culture was ranked as the least useful topic by the trainees implies that when the trainees were exposed to the subject of tissue culture it became self evident to them that this was not an activity that they could immediately replicate back home in their present circumstances and therefore its immediate usefulness was rated low However, the finding that 17 per cent of the respondents perceived the need for more exposure to the tissue culture lab (Table 4 41) implies that they were willing to explore the prospect of setting up a tissue culture lab back home, if they were provided with better exposure on how to go about doing it in a very practical way

Perceived importance of topics covered in training and Post Training Need Analysis by respondents

Table 4 40 reveals the most important and least important topics perceived by the respondents in the training The most important topics assigned by the respondents were mushroom production (23%) and vermi composting (17%) The topics perceived as least important by the respondents were dairy products (33%) and tissue culture (32%) Table 4 41 gave us an idea about topics respondents as most important for necessary inclusion in future training programme medicinal plants (27%), fish culture (22%), tissue culture lab visit (17%) and mango cultivation, cashew apple processing and rubber cultivation (12%)

During September 2012, a mid-course evaluation of training was made by an Expert Review Team consisting of four scientists from KAU who visited Ganjam, Gajapati and Kandhamal districts of Odisha to evaluate impact of training on farming community and suggest suitable modifications based on ground realities That team reported the following topics to be the focus of future training programmmes

Training Need Analysis as suggested by the Expert Review Team

1 Organic farming, production of bio inputs including bio fertilizers and bio control agents
2 Production technology of vegetable crops, turmeric, ginger and fruit crops
3 Nursery management and vegetative propagation techniques
4 Mechanized rice cultivation
5 Integrated Crop Management (ICM), Integrated Pest and Disease Management (IPDM) and Integrated Nutrient Management (INM) for important selected crops
6 Market Led Extension
7 Scientific management of cattle and clean milk production

Training Need Analysis by Different stakeholders

Listed below is the Training Need Analysis as perceived by the different stakeholders at the time of this study

1 Integrated Crop Management including animal husbandry
2 Importance of Agricultural Metererology
3 Mixed farming including Aquaculture
4 Soil testing
5 Nutrition garden
6 Organic certification and marketing of products
7 Plant propagation techniques and nursery management
8 Setting up of co-operative marketing ventures for agricultural produce
9 Farm mechanization
10 Climatic and geographic stability of crops
11 Good Agricultural Practices
12 Post Harvest Technology, Processing, Preservation and Value addition
13 Organic recycling and crop residue management
14 Production, multiplication and distribution of bio agents
15 Organic manure preparation, organic pesticides
16 Basic water management and fertilizer application techniques
17 Exploring new crops for various agro climatic situations of Odisha
18 Saving crops from wild animals
19 Off season vegetable cultivation
20 Grading, branding and marketing
21 Leadership, decision making, communication and personality development training

SWOC Analysis

Table 4 42 gave the degree of relationship between Strengths - Internal Positive Factors (IPFs), Weaknesses – Internal Negative Factors (INF's), Opportunities-External Positive Factors (EPF's) and Challenges – External Negative Factors (ENF's) in terms of weightings on a 10 point scale assigned by the researcher in consultation with experts By subtracting the subtotal of positive statements (IPF's, INF's and EPF's) from the subtotal of the negative statement (ENF's), strategic options scores were obtained

The strategic options with scores of 65 and above are listed below

1 Training should be based on specifically identified needs (72)
2 There should be highly effectual transfer of knowledge, attitude and skills (70)
3 HRD training for support staff and Quality Improvement Programs for resource persons of KAU should be provided (69)
4 Enhance the number of resource persons and support staff at CTI (68)
5 Boarding and transportation facilities for CTI and the CTI Sub Centre may be improved (67)
6 Develop e-training facilities (67)
7 Focus on crop specific input (65)

The objectives of this study included suggesting ways and means of improving training activity of the KAU Based on strategic options listed above,the following suggestions are made

1 Training Need Analysis should be made mandatory for every batch of trainees and may be undertaken after the final list of trainees nominated is ready
2 Unlike many national training institutes where infrastructure, boarding, lodging, transportation and recreational abound, CTI KAU has little to boast in those terms But what makes training activity at CTI, Mannuthy excel is the

highly effectual transfer of knowledge, attitude and skills for which the trainers and the resource personnel deserve due appreciation Therefore improving the boarding and transportation facilities at CTI and CTI Sub Centre will go a long way in enhancing training effectiveness Today it is seen that many sponsoring agencies like Maharashtra Agricultural Competitiveness Project (MACP) and State Bank of Travancore (SBT) while seeking the quality input from KAUs highly competent resource persons prefer to have their officers reside at hotels in and around Thrissur due to the poor quality of residential facility that KAU is able to provide It is for policy makers to take action in this regard

3 KAU has highly competent resource persons, but unless these staff is continually provided with Quality Improvement Programs, they will soon be out dated and irrelevant

4 A strategic option that emerged from SWOC Analysis was the need to enhance the number of resource persons and support staff appointed at CTI This becomes more evident when we take a macro perspective of 25 years of view what has been happening at CTI There has been a steep downzing of man power accompanied by an equally steep escalation of training activity, revenue and volume of work This will have to be rationalized to ensure optimum effectiveness

5 Another strategic option that has emerged from the SWOC analysis was the need to develop e-training facilities Today, CTI, KAU is exploring the possibilities of collaborating with India's number one software giant, Tata Consultancy Services in an endeavor to deliver value to the education segment at large by using a unique platform which enables content management, content sharing, collaboration, analytics, on–demanded reports, assessment and testing It also offers to handle end to-end processes of training from application, resource allocation, question bank management, exam management, assessment, evaluation, results, certificate printing, digital

verification and past data management This dream becomes a reality, CTI will soon be operating in the digital world and catering a worldwide clientele

Further insight into the Strengths, Weaknesses, Opportunities, Challenges specifically of the training programme for facilitators of PREM, Odisha were obtained through interaction with the stake holders and the findings are listed below cross referenced with Appendix I In some cases the list may seen a duplication of what has already been derived statistically, but these Strength, Weakness, Opportunities and Challenges (SWOC) have been derived through a different mode and substantiate what has been shown as valid statistically

Strengths – qualities that give advantage

- Availability of highly qualified, competent and excellent resource persons who are up-to-date in their own fields of expertise for handling diversified agricultural subjects (4), (5), (6), (7), (10)
- Native rural youth with traditional knowledge (8), willing to learn despite constraints of language and difficulty in adapting to new environs (9)
- Follow up and contact with trainees after the training, post training consultation, review, feedback and fine tuning for subsequent batches (7), (10)
- Presence of Centers of Excellence such as CPBMB (Centre for Plant Biotechnology and Molecular Biology), Cashew Research Station (CRS), Madakathara and Agricultural Research Station (ARS), Mannuthy (10) KAU has a strong faculty in social sciences, farm mechanization, bio fertilizers, bio control agents and organic agriculture (4)
- Mindset and attitude of the hosts towards those who came from the tribal belt of Odisha was free from caste considerations (4)

- Many practical classes and field demonstrations (2) Opportunity for on farm and hands-on learning and farm visits (10)
- The training institute always had a alternate plan and therefore was able to raise to the occasion despite constraints and contingencies (4)

Weaknesses – lacunae internal to the system which therefore can be changed

- Last minute intimation of arrival plan of trainees led to difficulties in arranging training logistics and resource persons (9)
- Last minute changes in schedule occasioned by resource persons being assigned with other responsibilities from higher ups (9)
- Heterogeneity of trainees with respect to educational standards, age, family backgrounds (10), The level of education of some participants being low, they were not able to follow the subjects properly (2)
- Lack of infrastructural facilities for the training institute (7), Lack of good canteen and conveyance facilities (10)
- Lack of enthusiasm on the part of few trainees displaced from their homes for a long time (7)
- Resource persons were not exposed to international standards (4)

Opportunities – windows of possibility to do or achieve something

- Further training on marketing of organic inputs and organic produce(10)
- Trainees can extend the scientific cultivation to vast area of land (10)
- Further training to enhance entrepreneurship skills of those already trained in technical skills (10)
- Scope for replicating similar public private – NGO partnership models of training with other organizations, other states (6) and other tribes (4)

- Separate institute for rural technology in KAU just like State Agricultural Management Extension Training Institute (SAMETI) with an exclusive mission for rural technology (4)
- Training Programmes for South Asian and African countries in collaboration with FAO (4), (7)
- Scope for marketing of under exploited product (4)
- Training in agricultural and related fields offers plenty of opportunities for training extension personnel all over the world, but for that the present facilities are not enough, Need to construct a training centre with international standards (5)
- Scope for online booking of agro tourism and training for European countries (5)
- The women trainees have been introduced to a totally new paradigm thereby improving their total perspective life considerably (3)
- Exposure of Axis Bank officers to how the Axis Bank Foundation had put Corporate Social Responsibility to such a meaningful and transforming activity make a sea change of difference in the officers themselves (3)

Challenges – external factors beyond ones control that limits or restricts something from being done

- Language constraint resulted in communication gaps and the lagging classes absence of good translation on some occasions affected effectiveness (4), (6), (8), (9), (10)
- Some trainees became ill and had to be hospitalized (10)
- Lack of enough resource persons Many posts of teachers/scientists in the university are vacant This leads to strain on existing teachers to make themselves available for training over and above their regular duties (4), (5), (6)

- Need for more skilled persons to handle hands-on practical sessions (10)
- Need for more innovative thinking on the part of policy makers (5), Funding for research in agriculture and rural work is less compared to space research and biotechnology (4), (5), (7)

What should be KAU's future training strategy?

The suggestions for ways and means of improving training activities of KAU received from the stakeholders were obtained and consolidated with cross-references in Appendix I

- KAU has technical subject matter competencies in over two hundred of special areas, capable of being marketed globally This has to be effectively utilized by designing customized training programmes for different categories of stakeholders and reaching out to prospective takers through modern marketing strategies (1)
- KAU should reorient training activity to target entrepreneurs, agribusiness, unemployed youth, extension personnel and resource personnel (5) and spread its wings to wider sections of entire nation (3) and to the international community (10), facilitating ex-trainees to set up agri enterprises (9)
- Batch specific Training Need Analysis (8) with some flexibility to modify the schedule based on the changing expectations of the trainees (2)
- Focus on sustainable eco-friendly good agricultural practices (4) with minimum use of hazardous chemicals (10), conservation of indigenous, traditional knowledge, natural resources (4) and genetic wealth (10), Eco tourism, farm tourism, export oriented commodity based training programmes (10), industrial processing and value addition, environmental security (4), bio intensive integrated pest and disease management (7) commodity markets,

futures market, market analysis and effective marketing techniques (10) especially of native products (4)

- Assign trainers based on previous training feedback analysis (7), Strengthen HRD for training for trainers (6), (7), (10) and international exposure
- Introduction of Massive Online Open Courses (10), with facilities for on line booking for training (5), Adopt Video conferencing to reduce strain on resource persons (10)
- Trifurcation of the universities in Kerala has affected integrated farming systems approach and hence sharing of resources between the universities must take place (6)
- Improve infrastructure and training facilities training hall, chairs, recreation facilities (10) Trainees should be provided with state-of-the art facilities (5)
- Emphasis on skill component of training (9)
- Follow up and evaluation of the training done so far (9) evaluation the post training activities and effectiveness of training programs (10)
- Increase the staff strength (10) and widen the resource persons pool, apart from university (6)
- Selection of training co-coordinator is very much important (10) Training management in trainee (4) Improve training evaluation system and evaluation of resource persons as has been done in the study (7) Enhance honorarium to resource persons (7)
- Make discrimination in training duration based on the nature of training (6)
- Subject Matter Specialists should be exposed to international and trained in management strategies and tools, leadership and motivation to enhance resource person's commitment for community or mission mode approaches (4)
- More the field visits, more effective the training (7)

- Appointment of professional House Keeping and Maintenance Staff for CTI (7)
- Making available the training calendar on the university website on the beginning of each financial year (5)
- More number of girls/women to be included for training programmes from rural parts of India (3)
- Hands outs for each topic should be distributed among the participants at least one day before the session (2)

The stakeholders were interviewed in terms of what experiences and memories they recall with respect to the training Their responses are consolidated below and cross referenced in Appendix I

- The trainees were very cordial, adjustable, responsive and proactive (9)
- Even though there was language problem, the trainees were responding well They actively participated throughout the training (8)
- The training programs were well planned and the trainees were exposed to all important aspects of agriculture and allied subjects The trainees were very naive and eager to acquire knowledge and skill The programme was practical oriented (10)
- Trainees were attentive They were eager to know about crop production practices and why they were unable to reach that production potential back home, seed, planting materials, source from where it obtained particularly if not grown in Odisha, organic way of farming and use of organics as a nutrient source, plant density/population and fertilizer application schedule for each crop, the scope of extensive bamboo cultivation in waste lands, labour availability, work output and wages in Kerala comparison to the same in Odisha (6)

- Their keen interest was self evident when they asked for more explanation, often writing things they found difficult to describe on the white board and seeking demonstration (6)
- Useful especially for empowering the poor people The receptivity of the trainees to know more in spite of language barrier was perceivable and one could almost feel the impact the training was having on (4)
- It seems casteicism still had a predominant sway in Odisha that had deprived the trainees' social recognition In terms of land holding those from Odisha felt they were far more blessed than many in Kerala who had to be content with small holdings while the standard of living and consumerism in Kerala was so much higher than what they had ever experienced back home (4)
- The trainees from Odisha lacked awareness about soil testing and biological control agents They were cultivating local varieties Plenty of Neem in Odisha could be put to best use The trainees were very attentive and quick to grasp the concepts that were taught to them They seemed to be far away from the agricultural university in Odisha and could not avail its services Conducting the training in Odisha itself would be more practical (7)
- This training is perhaps one of its kinds in KAU Beneficiaries selected were real farmer facilitators highly motivated In spite of their limitation in language and education, they were eager to learn and make use of what they learned (5)
- This training program was quite different The emphasis on organic farming, use of bio pesticides and zero budget farming were highly useful Scientific techniques of goat rearing, cattle management and back yard poultry has made a long term impact on the trainees (2)
- PREM being a well established NGO operating without any vested interest was also a key to the success of the programme (4) There was a high level of credibility that PREM has built up among its tribal beneficiaries It brought

much happiness to see how the impact of the training had been translated to the field and transformed the tribal population PREM and Axis bank foundation have also expressed their profound thanks and satisfaction about the training conducted by KAU They were especially happy at the way tribal were treated all throughout the training program and that this had imparted their personality and build up their self esteem The training was well conceived by putting together an excellent package of scientific knowledge about agriculture, practical skills and behavioral aspects aimed at personality development (1)

SUMMARY

VI. Summary and Conclusions

You can't move forward until you look back

- Cornel West

The Central Training Institute, Mannuthy (CTI) is the nodal point of all training activities undertaken by KAU However, there has been very little systematic and scientific analysis of training effectiveness With financial sponsorship from AXIS Bank Foundation, CTI, Mannuthy has conducted a series of training programmes for the facilitators of PREM from May 2011 to July 2014 PREM is an NGO working for the upliftment of the tribal belt in Odisha The trainees were exposed to various aspects on organic, eco-friendly and good agricultural practices, nursery management, integrated pest and disease management, vermi-composting, medicinal plants, fruit crops, post harvest processing and value addition techniques, improved animal husbandry practices, meat and dairy products and by-products, bee keeping, mushroom production and farm mechanization with occasional soft skill inputs

This study entitled "Effectiveness of the training for facilitators of the People's Rural Education Movement (PREM)" was undertaken with the following objectives

- To evaluate the effectiveness of the training for facilitators of the People's Rural Education Movement (PREM)
- To make a SWOC (Strength, Weakness, Opportunities and Challenges) analysis of KAU's training capability
- To suggest ways and means of improving training activity of the Kerala Agricultural University (KAU)

The sample consisted of 90 randomly selected participants and 10 purposively selected stakeholders representing officials of PREM, AXIS Bank Foundation, resource persons, and members of the Expert Review team The ex post facto research design was adopted for the study

Dependent variables of this study were adoption, knowledge gain, training rigour, training expectations, perceived applicability of knowledge gained, back home utility, extension opportunity, anticipated impact of training and usefulness of training
Age, gender, educational qualification, years of experience in PREM, additional occupation, farming experience, land owned, land cultivated, crops cultivated, animal husbandry, annual income, social participation, extension agency contact, motivation, aspiration, predisposition for change, orientation towards scientific modern agricultural practices and previous training exposure were the independent variables under this study

Data collection was carried out using mailed questionnaires, personal interview method Secondary data available in the pre and post training documents, the report of the Expert Review Team and specific cases of actual back home utility were also extensively used

Data was analyzed using frequency and percentage analysis, product moment correlation, spearman rank order correlation, wilcoxon signed rank test, kendall's coefficient of concordance and kruscal wallis one way anova testes

A few salient findings of the study are highlighted below

- The sponsoring agency has taken care to ensure a reasonable balance in deputing candidates for training with respect to age, gender, experience in PREM, farming experience but there was wide disparity among respondents with respect to size of land owned and with regard to education there was an even spread ranging from below matriculation to post graduation Most of those deputed for training were destined to make a living from their self employment and work as facilitators in PREM The average annual income of the respondents ranged from Rs 30, 000/ to Rs 78, 000/- Crops Cultivated by the respondents included paddy, vegetables, plantation crops pulses, maize,

fruit crops, ragi, oil seeds and spices The respondents owned and reared poultry, oxen, cows, goats, pigs and buffaloes

- CTI, KAU have contributed an increased social participation of the respondents
- Extension agency contact of the respondents with the Agricultural Officer and Veterinary Officer is satisfactory while contact with the State Agricultural University in Odisha was zero
- Facilitators were driven by affiliation, power and achievement motivation at various degrees
- Only 13 per cent of respondents had a high level of aspiration, while 81 per cent of the respondents felt need for a change in agricultural practices in their villages
- Sixty per cent of respondents were well oriented towards modern and scientific agricultural practices
- It was heartening to note the high percentages of respondents who had fully adopted the practices taught to them at the training programme at CTI, Mannuthy Organic and Eco friendly farming practices (89%), Integrated Pest and Disease Management (76%) and Improved Animal Husbandry practices (74 %)
- It was also equally heartening to note the high percentages of respondents who had partially adopted the practices taught to them vermi-composting/ medicinal plants and fruit crops/bee keeping/mushroom production/nursery management (80%) and processing and value addition techniques (59%) These findings can stand alone to prove the very thesis of this report that the training for facilitators of PREM, Odisha conducted at CTI, KAU has been worth every rupee that was spent on it Such high levels of adoption singularly point to the transformatory impact that the training could have in Odisha

- Only five of the 90 respondents had previous training exposure before coming for training at CTI, Mannuthy
- The training was perceived as rigorous by most of the respondents (80%) In specific terms the training content was well organized and the presentations effective, easy to follow and interesting, the trainers were knowledgeable, the quality of instruction was good, the programme met training objectives, class participation and interaction were encouraged, adequate time was provided for interaction, discussion and clearing doubts, the overall conduct of training was excellent and the accommodation and food facilities were good
- It is next to impossible to meet every ones' expectation but CTI, KAU seems to have ensured that invariably all the trainees had their expectations met at a medium level
- Fifty two per cent of respondents perceived that knowledge gained in the training had applicability in their circumstances and 45% respondents highly supported the proposition that they could apply the knowledge gained
- Eighty five per cent of the respondents found the skills/information learned during the training helpful to their day to day work as a facilitator To design a training curriculum with skills and information that would be perceived as helpful to their day to day work by 85 % of respondents stands to validate the design element in conduct of training
- Majority (93%) of the respondents had opportunity to share information gained through training to others
- Sixty three per cent of respondents had a medium level of anticipated impact of training in that the training would make a difference in the way they did their job and the training was invariably useful for all the respondents
- Land owned land cultivated, extension agency and farming experience had positive and significant relationship with adoption can be an encouragement

for the trainer in that training intervention may work without being affected by the filters of most socio-psychological characteristics

- Orientation towards scientific and modern agricultural practices, previous training exposure and gender had negative and significant relationship with training rigour meaning that women were more positively predisposed towards scientific and modern agricultural practices
- Farming experience had positive and significant relationship with training expectations
- Previous training exposure had negative and significant relationship with the back home utility while the remaining socio-psychological factors had no significant relationship with back home utility inclined Having attended previous training programme and having realized from actual experience that translating all that one has learned at the training in the back home situation is easier said than done, those with previous training exposure were mellowed in their back home utility scores
- Gender had negative and significant relationship with usefulness of training meaning that women were more positively benefited
- All the respondents gained knowledge through the training and there was no significant difference among respondents who attended training in the different years
- Level of aspiration and perceived applicability of knowledge gained was significantly higher for the respondents who attended the training thrice
- Respondents ranked mushroom technology as the most useful topic covered in training followed by beekeeping, making of cco friendly products and farm Tissue culture was ranked as the least useful topic by the trainees
- Topics perceived by the respondents as most important for necessary inclusion in future training programme were medicinal plants, fish culture,

tissue culture lab visit, mango cultivation, cashew apple processing and rubber cultivation

- Training Need Analysis as perceived by the different stakeholders were also studied and documented
- Strategic options for improving KAU's training capability were arrived at through statistical analysis of the Strengths, Weaknesses, Opportunities and Constraints and are listed below

  Training should be based on specifically identified needs

  There should be highly effectual transfer of knowledge, attitude and skills

  - HRD training for support staff and Quality Improvement Programs for resource persons of KAU should be provided
  - Enhance the number of resource persons and support staff at CTI
  - Boarding and transportation facilities for CTI and the CTI Sub Centre may be improved
  - Develop e-training facilities

  Focus on crop specific input
- The objectives of this study included suggesting ways and means of improving training activity of the KAU Based on strategic options listed above, suggestions were made
- Further insight into the Strengths, Weaknesses, Opportunities, Challenges specifically of the training programme for facilitators of PREM, Odisha were obtained through interaction with the stake holders and the findings were listed
- A comprehensive proposal on what KAU's future training strategy should be was formulated

- The stakeholders were interviewed in terms of what experiences and memories they recall with respect to the training Their responses were consolidated

Thus the null hypothesis 1 Training for facilitators of People's Rural Education Movement was not effective stands rejected while the alternative hypothesis 1 Training for facilitators of People's Rural Education Movement was effective is accepted Null hypothesis 2 Training Institute has had no role in making the training for facilitators of People's Rural Education Movement effective stands rejected while the alternative hypothesis 2 Training Institute has had a significant role in making the training for facilitators of People's Rural Education Movement effective is accepted

The study has gone a long way in documenting the effectiveness of the training programme for facilitators of the People's Rural Education Movement (PREM) its impact on the participants and the ongoing transformation that has taken place in the tribal belt of Odisha from where the trainees came from This kind of training model can be replicated in other parts of country with many corporates investing their corporate social responsibility in meaningful and sustainable nation building activities It has also helped to understand KAU's present training strengths and provided many suggestions for further improvement to meet the changing demands in the agricultural scenario This study will serve as guideline to policy makers in framing the direction of future training interventions

It seems appropriate to summarize the very quest of this thesis in the words of Smt Mary L George, former Branch Manager of East Fort Branch of Axis Bank which was the closest branch of the bank to the training centre and therefore most associated with the training programme Rating the training as excellent, she went on

to say that the training has had a profound impact on her All the trainees and especially the girls reflected a new confidence towards life, their energy and enthusiasm was electrifying It has made me proud to be part of a programme that has brought a new lease of life to so many of these underprivileged hats off to all who have been behind such a meaningful developmental initiative

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*Originals are not seen

APPENDICES

Appendix I

List of stakeholders

Sl. No.	Stakeholders and their designation
1	Dr Joy Mathew, Comptroller, Kerala Agricultural University, Vellanikkara
2	Fr Jacob Thundyil, President, People's Rural Education Movement, Odisha
3	Smt Mary L George, former Branch Manager, Axis Bank, East Fort branch, Thrissur
4	Dr Jim Thomas, Associate Director of Research, Directorate of Research, Kerala Agricultural University, Vellanikkara
5	Dr C Narayanankutty, Professor of Horticulture, Agricultural Research Station, Mannuthy
6	Dr P S John, Professor of Agronomy, Dept of Agronomy, College of Horticulture, Vellanikkara
7	Dr S Estelitta, Professor and Head, Communication Centre, Mannuthy
8	Dr K E Usha, Professor and Head, Central Nursery, Vellanikkara
9	Dr G S Arularasan, Assistant Professor, Communication Centre, Mannuthy
10	Shri V J Paul, Farm Superintendent, Central Training Institute, Mannuthy

Appendix II

Questionnaire for the respondents

Effectiveness of training for facilitators of People's Rural Education Movement (PREM)

Questionnaire

1. Name (in BLOCK letters)

2. Address:

3. Age (completed years)

4. Gender Male ☐ Female ☐ (√ mark)

5. Educational Qualification (√ mark)

Below Matriculation ☐
Matriculation ☐
Higher Secondary ☐
Graduation ☐
Post Graduation ☐
Others ☐
(Please specify)

6 Number of completed years of **experience as an activist / facilitator of PREM** ☐

7. Additional Occupation (if any) (√ mark)

Self employed ☐
Government job ☐
Others ☐
(Please specify)

8 Number of years of **experience in farming:** ☐

9. Land holding

a) Land owned (acres or cents)
b) Land cultivated (including land leased) (acres or cents)

10. Crop details

Sl No	Crops cultivated	Area in acres or cents

11. Animal wealth

Sl No	Animal	Number
1	Oxen	
2	Cows	
3	Buffaloes	
4	Goats	
5	Pigs	
6	Poultry birds	

12. Annual Income (in rupees)

13. Social Participation

a) Are you involved in activities of any organization other than PREM? Yes / No
b) If yes Before training / after the training / both before and after training (strike out the wrong answers)
Other than PREM are you a member of
c) One organization other than PREM ☐
d) Two or more organizations other than PREM ☐
e) Office bearer in an organization other than PREM ☐

14. Extension Agency Contact

Please indicate the frequency of your contact with an Extension Agency Put tick (√) on the appropriate columns

Sl No	Agency	Frequency			
		Often (once a week)	**Occasionally** (once a month)	**Seldom** (once in an year)	**Never**
1	Agricultural Officer				
2	Veterinary Officer				
3	University Scientist				
4	NGO Expert				
5	Others if any (please specify)				

15. Motivation

Please indicate your response against each statement by putting tick mark (√) on the appropriate column which reflects the following continuum

SA-Strongly Agree, A Agree, DA- Disagree, SDA Strongly Disagree

Sl No	My work as a facilitator in PREM	SA	A	DA	SDA
1	Gives me a certain level of power and influence over people				
2	Gives me good contacts and social relationships in life				
3	Provides opportunity to accomplish something significant in life				

16. Aspiration

Please indicate your response against each statement by putting tick mark (√) on the appropriate column which reflects the following continuum

SA Strongly Agree, A- Agree, DA- Disagree, SDA-Strongly Disagree

Sl No	Statements	SA	A	DA	SDA
1	I learn from my mistakes				
2	If there is a will, there is a way				
3	Dreams are good but I will continue to be the way I am				
4	There will be many people who are not cooperative, but even if there are a few who are willing to change we can work with them				
5	My efforts can make a difference				
6	Unless the government provides subsidy our situation will never improve				

17. Predisposition for change

Please indicate your response against each statement by putting tick mark (√) on the appropriate column which reflects the following continuum

SA-Strongly Agree, A- Agree, DA- Disagree, SDA-Strongly Disagree

Sl No	Statements	SA	A	DA	SDA
1	There is a lot that need to change in the agricultural practices in my village				
2	Adopting new practices learned at the training is a waste of money, effort and time				
3	Despite the obstacles I will still strive to bring about changes in the agricultural practices of my village				
4	Training opened my eyes to a number of possibilities in agriculture				
5	The training in Kerala was good but we cannot replicate most of what we learned there because the circumstances here are different				

18. Orientation towards scientific and modern agricultural practices

Please indicate your response against each statement by putting tick mark (√) on the appropriate column which reflects the following continuum SA Strongly Agree, A Agree, DA- Disagree, SDA Strongly Disagree

Sl No	Statements	SA	A	DA	SDA
1	Scientific and modern agricultural practices will increase agricultural production and productivity				
2	Scientific and modern agricultural practices involves higher cost of cultivation and are risky				
3	Vaccination of animals will go long way in improving animal husbandry				
4	Scientific and modern agricultural practices are not suitable for the district that I hail from				
5	Tissue culture plants are healthier and less susceptible to pest and diseases				
6	The quality of produce through traditional agricultural practices is better than that obtained through scientific and modern agricultural practices				

19. Adoption

Give your responses about the level of adoption on the following topics learned at the training by putting a tick mark (√) on the appropriate column below

Sl No	Statements	Level of adoption		
		Fully	Partially	Not at all
1	Organic and eco friendly farming practices			
2	Processing and value addition techniques			
3	Improved animal husbandry practices			
4	Any one or more of the following vermi-composting / medicinal and fruit crops/ bee keeping/ mushroom			

	production/ Nursery management			
5	Integrated pest and disease management			
6	Farm mechanization			

20. Previous Training Exposure

On which period did you attend the training at CTI, KAU?

Sl No	Dates	Tick mark (√) against the appropriate dates
1	12/09/2011 to 06/10/2011	
2	21/01/2012 to 15/02/2012	
3	19/07/2012 to 12/08/2012	
4	19/11/2012 to 08/12/2012	
5	08/02/2013 to 04/03/2013	
6	17/03/2013 to 10/04/2013	
7	18/03/2014 to 03/04/2014	

Have you attended any other training programme before? If Yes give details below If No, write 'NIL'

Sl No	Name of training	Date	Organized by
1			
2			
3			
4			

21. Any other suggestions (you may use an additional sheet if needed)

Signature

Appendix III

Interview schedule for stakeholders

Questions

1 Kindly recall your experience and memories that you have with respect to this training program?

2 Kindly mention any five topics in order of priority that you feel should be included in subsequent training programs for facilitators from Odisha?

3 How did you rate the training program? Excellent / Good / Average / Poor / Very Poor

4 What in your opinion were the

   a Strengths

   b Weaknesses

   c Opportunities

   d Constraints

5 Do you have any suggestions to improve Kerala Agricultural University's present training activity?

6 What should be KAU s future training strategy?

Signature

Name

Designation

Appendix IV

KERALA AGRICULTURAL UNIVERSITY
CENTRAL TRAINING INSTITUTE
Training for Facilitators of People's Rural Education Movement (PREM)

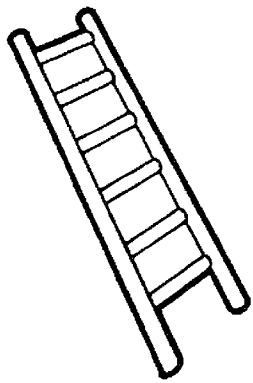
Training Evaluation Form 1

		Strongly Agree	Agree	Disagree	Strongly Disagree	
1	Training met my expectations	◯	◯	◯	◯	
2	I will able to apply the knowledge what I have learned	◯	◯	◯	◯	
3	The content was organized, easy to follow and presented in an interesting manner	◯	◯	◯	◯	
4	The trainers were knowledgeable	◯	◯	◯	◯	
5	Quality of instruction was good	◯	◯	◯	◯	
6	The programme met training objectives	◯	◯	◯	◯	
7	Class participation and interaction were encouraged	◯	◯	◯	◯	
8	Adequate time was provided for interaction, discussion and clearing doubts	◯	◯	◯	◯	
9	Accommodation and food facilities were good	◯	◯	◯	◯	
		Excellent	Good	Average	Poor	Very Poor
10	How do you rate over all conduct of training	◯	◯	◯	◯	◯

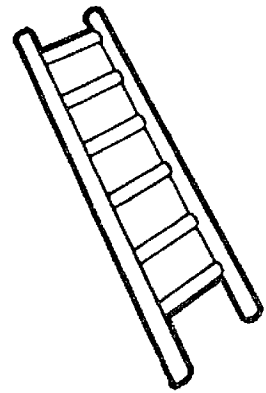
11 What aspect of training could be improved

12 Any other comments

13 Kindly mention your knowledge level before and after attending training?



Before training



After training

Appendix V

KERALA AGRICULTURAL UNIVERSITY
CENTRAL TRAINING INSTITUTE
Training for Facilitators of People's Rural Education Movement (PREM)

Training Evaluation Form 2

1	How do you find skills/ information learned you have learnt during the course would be helpful to your day to day working as a facilitator	Excellent	Good	Average	Poor
2	Have you had opportunity to share the information/skills learnt with your colleagues	Yes		No	
3	What extent do you expect this meeting will make a difference in the way you do your job?	Low	Medium	High	
4	How useful has been the training doing your job more effectively	More useful	Useful	Less useful	
5	List three most important topics you have learnt during training				
6	List three least important topics you have learnt during training				
7	List three most useful skills you have learnt from this training				
8	What benefits has this training brought to improve your skill as a facilitator?				
9	Do you feel you will be more effective in your role as a facilitator after this training?				
10	Mention three topics that you felt important to be included in the coming training programmes				
11	Any other suggestions				

Appendix VI

KERALA AGRICULTURAL UNIVERSITY
CENTRAL TRAINING INSTITUTE
Training for Facilitators of People's Rural Education Movement (PREM)

FEED BACK

Kindly give your rating in terms of usefulness of the sessions listed below by encircling the mark of your choice

Sl No	Session title	Resource Person	Usefulness Rating								
			Low								High
1	Ice breaking Climate Setting and Personality Development	Dr G S Arularasan	1	2	3	4	5	6	7	8	9
2	Participatory Training Techniques and Participatory Rural Appraisal	Dr P Ahammad & Dr G S Arularasan	1	2	3	4	5	6	7	8	9
3	Vermicomposting	Dr Jayasree Sankar	1	2	3	4	5	6	7	8	9
4	Eco-friendly farming practices	Dr G S Arularasan	1	2	3	4	5	6	7	8	9
5	Medicinal plants	Sri C A Mathew	1	2	3	4	5	6	7	8	9
6	Women friendly technologies	Dr Binu P Bonny	1	2	3	4	5	6	7	8	9
7	Processing technology	Dr K B Sheela	1	2	3	4	5	6	7	8	9
8	Cultivation of ginger and turmeric	Dr V S Sujatha	1	2	3	4	5	6	7	8	9
9	Cultivation of fruits	Dr K Aravindakshan	1	2	3	4	5	6	7	8	9
10	Bee keeping	Dr Mani Chellappan	1	2	3	4	5	6	7	8	9
11	Nutrition and hygine	Dr K T Suman	1	2	3	4	5	6	7	8	9
12	Making of eco friendly products	Smt Latha Santhosh	1	2	3	4	5	6	7	8	9
13	Vegetable cultivation nursery production and management	Dr C Narayan kutty	1	2	3	4	5	6	7	8	9
14	Introduction of computer and its applications	Dr G S Arularasan	1	2	3	4	5	6	7	8	9
15	Visit to veterinary hospital	Dr C B Devanad	1	2	3	4	5	6	7	8	9
16	Livestock farming & visit	Dr N Geetha	1	2	3	4	5	6	7	8	9
17	Dairy products	Dr C T Sathian	1	2	3	4	5	6	7	8	9
18	Use of banana fibres& visit to Banana Research Station	Dr K C Aipe	1	2	3	4	5	6	7	8	9
19	Meat technology	Dr P Kuttinarayan	1	2	3	4	5	6	7	8	9
20	Pig rearing	Dr A P Usha	1	2	3	4	5	6	7	8	9
21	Integrated pest management	Dr Jim Thomas	1	2	3	4	5	6	7	8	9
22	Fodder cultivation	Dr Jagadeesh Kumar	1	2	3	4	5	6	7	8	9

23	Poultry farming	Dr C Beena Joseph	1	2	3	4	5	6	7	8	9
24	Tips for conducting effective training	Dr G S Arularasan	1	2	3	4	5	6	7	8	9
25	Integrated Disease Management	Dr S Estellita	1	2	3	4	5	6	7	8	9
26	Co-operatives Farmers club and marketing	Dr Sabu Philip	1	2	3	4	5	6	7	8	9
27	Pine apple cultivation and visit	Dr Baby Latha	1	2	3	4	5	6	7	8	9
28	Processing of cashew and Visit	Dr Jose Mathew	1	2	3	4	5	6	7	8	9
29	Mushroom production	Dr Seeja Thomachan	1	2	3	4	5	6	7	8	9
30	Goat farming	Dr Radhika	1	2	3	4	5	6	7	8	9
31	Rabbit rearing	Dr Elizabath Kurien	1	2	3	4	5	6	7	8	9
32	Farm mechanization	Dr U Jaikumaran	1	2	3	4	5	6	7	8	9
33	Floriculture	Dr P K Rajeevan	1	2	3	4	5	6	7	8	9
34	Tissue culture	Dr P A Nazeem	1	2	3	4	5	6	7	8	9
35	Agroforestry and visit to College of Forestry	Dr A V Santhosh Kumar	1	2	3	4	5	6	7	8	9
36	Visit to cattle research station	Dr Benjamin	1	2	3	4	5	6	7	8	9
37	Organic farming and visit	Dr V K Raju	1	2	3	4	5	6	7	8	9
38	Visit to fish hatchery	Ms Akhilamol	1	2	3	4	5	6	7	8	9
39	Precision farming and protected cultivation	Dr Mary Regina F	1	2	3	4	5	6	7	8	9

Appendix VII

Observations of the KAU EXPERT REVIEW TEAM

A four-member Expert Review Team from KAU visited to Odisha from 17 to 21 September 2012 In Gajapati District, the team visited a small hamlet named Hidukama of Mohana Block This tiny hamlet came into being in 1999 with five families and now comprises of 20 families with a population of 95 people The crops grown were mango, cashew, maize, brinjal, tomato, turmeric, ginger, paddy, ragi and there was a livestock population of about 100 cows, 150 goats and 200 poultry birds It was noteworthy to mention that though it is a tribal hamlet, all the school aged children were attending schools The average income per family per annum ranged from Rs 1 5 to 2 lakhs per annum and the sole source of income is farming The proficiency in farming that they were able to attain due to technology input from KAU had enabled zero migration to other areas in search of better livelihood options

In Khandhamal District, the Expert Review Team from KAU visited Dairangbadi This was a typical tribal hamlet The main occupation of people was agriculture The people were unaware of modern scientific cultivation of crops They were cultivating paddy, maize, ginger and turmeric as promoted by State Agricultural Department The entire ginger cultivation in the area had succumbed to wilt disease and the crop is no more in cultivation The training given by KAU had paved the way for the people to grow vegetables on commercial scale Vast area had now come under cabbage, tomato, brinjal and chilies In paddy, line transplanting was now widely followed Turmeric was grown scientifically with proper management The Expert Review Team from KAU noted that marketing was the real problem faced now Crop diversification, cultivation of resistant varieties especially for bacterial wilt and organized production and marketing with the support of PREM were some of the recommendations given The empowerment of tribal's had resulted in one of the

woman trainees becoming an elected member of local Block Panchayath Prior to training, people used to purchase chemicals on their own as per the direction of the local input dealers and they were used in a haphazard manner Post training, the people stopped use of chemicals and they shifted to organic farming Other changes observed were

- Only fresh cow dung was used earlier, now, it is shade-dried, composted and used
- Cow urine was not used earlier, now being used along with cow dung
- In horticultural crops closer pacing was followed earlier, the appropriate spacing and other crop production practices are being followed now in a scientific manner
- In paddy cultivation SRI method and line spacing were being adopted now
- Post training the mortality rate of the cattle has been decreased significantly Earlier, if there was any disease incidence like Foot and Mouth Disease (FMD), the people were unaware of the curative measures and they were not even aware that the Veterinary Doctor could make curative interventions They considered it as god's curse and the fate of those infected animals to die After training, they became aware of the services of the Animal Husbandry Department and now proper and timely vaccination are being administered to the cattle Besides, the trainees were also able to advocate some first aid treatment measures that they had learnt from KAU

Around 35 ex-trainees from Gajapati, Ganjam and Khandhamal districts opined that the niche areas where the trainees gained a good knowledge and started practising the learning after the training were (1) Kitchen and Nutritional gardening (2) Organic Farming (3) Mushroom Cultivation (4) Cashew Nursery

Mr Rajendra Dora, an ex trainee from Gajapati District presented the significant changes that had occurred as a result of the training

- Rural youths were now more interested in farming
- Shifting cultivation had considerably reduced
- There is a significant reduction in migration
- Farmers had shifted to organic farming
- There was less investment and more income
- Mixed farming and crop rotation were being practiced
- Income of rural women has increased through kitchen gardens
- Waste management and village cleanliness had improved
- Protection of Livestock by timely vaccination

The state of affairs about Ganjam district was presented by Balakrishna Badatya, another former trainee According to him, the results of the training programme were

- Conversion of vast waste lands for cultivation purpose
- The youth have a new interest in farm mechanization
- Kitchen gardens were promoted by the women groups
- Farmers have realized the harmful effects of chemical fertilizer and pesticides and their use had reduced to a very great extent
- Some farmers had begun making compost and managing pests and diseases through biological methods
- Domestic waste materials were now being used for compost and mulching
- Steps were taken by the youth to access MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) for horticulture based activities
- Some farmers were changing their crop plan based on market demand

Hari Sankar Rout, an employee of PREM, gave an overview of the post KAU training agricultural activities in Khandamal region as follows

- Commencement of cultivation of Brinjal, Tomato, Cabbage, Cauliflower and Beans
- Promotion of fruit crops like Mango, Cashew, Pineapple
- Adoption of High bed Turmeric cultivation
- Integrated Pest Management
- Shift to Organic farming and Crop rotation
- SRI method of paddy cultivation and line sowing
- Poultry and Goat farming
- Introduction of Farm Mechanisation

On the whole, the participants and the sponsors were very happy about the technological input and interventions of KAU, and the ex-trainees could serve as resource persons to their local community The following suggestions were made

- Sales outlets for organic farm inputs and organic farm produces under the aegis of PREM
- Formation of Producers' Society for effective marketing of organic farm produces
- Grading and branding of produce to obtain a premium price
- Farm budgeting and record maintenance
- Agripreneurship Development with special emphasis on Post Harvest Technologies, Processing, Value addition and Marketing
- Scope for setting up of Ethnic Food Cafe
- E-marketing

- Promotion of farm mechanisation in Ganjam District and other labour-scarce areas
- Promotion of floriculture
- Thrust on crop rotation, Integrated Farming System, Integrated Cropping Management practices and Eco-friendly farming practices
- Promoting and Maintaining Cattle Wealth
- Establishment of Procurement Centres at Panchayat level, Storage and Transportation facilities at block level and a Centralised Processing and Value Addition Unit at district level

EFFECTIVENESS OF TRAINING FOR FACILITATORS OF PEOPLE'S RURAL EDUCATION MOVEMENT (PREM)

By

REMYA M

(2013-11-152)

THESIS

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COLLEGE OF HORTICULTURE

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Abstract

With financial sponsorship from Axis Bank Foundation, Kerala Agricultural University (KAU) conducted a series of training programmes for the facilitators of People's Rural Education Movement (PREM) from May 2011 to July 2014 PREM is an NGO working for the upliftment of the tribal belt in Odisha This study had three specific objectives (1) To evaluate the effectiveness of the training for facilitators of the PREM (2) To make a Strengths, Weaknesses, Opportunities and Constraints (SWOC) analysis of KAU's training capability and (3) To suggest ways and means of improving training activity of the KAU Ninety randomly selected trainees and 10 stakeholders representing officials of PREM, Axis Bank Foundation, resource persons and members of the Expert Review Team constituted the sample Ex post facto research design was adopted for the study Data collection was carried out using mailed questionnaires and personal interview method Secondary data available in the pre and post training documents, the report of the Expert Review Team and specific cases of actual back home utility were also extensively used

Profile parameters of the respondents were documented and subsequent findings of the study reveal that high percentages of respondents fully adopted the practices learned at the training organic and eco-friendly farming practices (89%), integrated pest and disease management (76%) and improved animal husbandry practices (74%) The percentages of respondents who partially adopted the practices taught were as follows vermi composting/medicinal plants and fruit crops/bee keeping/mushroom production/nursery management (80%), processing and value addition techniques (59%) However, nearly 50 per cent of respondents did not adopt farm mechanization

The training was perceived as rigorous by most of the respondents (80%) Wilcoxon signed rank test revealed that invariably all the respondents had gained knowledge through the training That 52 per cent of respondents perceived that the

knowledge gained in the training had applicability in their circumstances and 85 per cent of respondents perceived the training was helpful to their day-to day work stands to validate the design element in conduct of the training Majority (93%) of the respondents had opportunity to share information gained through training to others implying that the training impact went beyond the trainees Invariably all the trainees had their expectations met and rated training useful for them at medium level

Correlation results show that land owned, land cultivated, extension agency and farming experience had a positive and significant relationship with adoption Orientation towards scientific and modern agricultural practices and gender had a negative and significant relationship with training rigour Orientation towards scientific and modern agricultural practices had a negative and significant relationship with knowledge gained through training

Kruskal Wallis one-way Anova results indicate that there was no significant difference between the respondents who attended training in different years 2011-12, 2012 13 and 2013-14 Level of aspiration and perceived applicability of knowledge gained was significantly higher for the respondents who attended the training thrice Kendall's co-efficient of concordance showed that mushroom production technology as the most useful topic covered in training followed by bee keeping making of eco friendly products and tissue culture as the least useful topic Topics perceived by the respondents as most important for necessary inclusion in future training programmes were medicinal plants, fish culture, tissue culture lab visit, mango cultivation, cashew apple processing and rubber cultivation

Seven strategic options arrived through SWOC analysis of KAU's training capability were (1) undertake batch specific training need analysis (2) ensure highly effectual transfer of knowledge, attitude and skills (3) provide HRD training for support staff and Quality Improvement Programs for resource persons of KAU (4)

enhance the number of resource persons and support staff (5) improve boarding and transportation facilities (6) develop e-training facilities and (7) focus on crop specific input

Suggestions on ways and means to improve training activities of KAU were select training co coordinator carefully, nominate resource persons based on previous training feedback analysis, have more the field visits and emphasize on skill component, adopt flexibility to modify the schedule based on the changing expectations of the trainees, handouts for each topic to be distributed at least one day before the session, reach out to prospective clients through modern marketing strategies, adopt video conferencing to reduce strain on resource persons, introduction of Massive Online Open Courses with facilities for on-line booking for training and making available the training calendar on the university website in the beginning of each financial year