

**EFFECTIVENESS OF DAIRY BASED ENTREPRENEURIAL  
DEVELOPMENTAL PROGRAMMES**



**THESIS SUBMITTED TO THE  
ICAR - NATIONAL DAIRY RESEARCH INSTITUTE, KARNAL  
(DEEMED UNIVERSITY)  
IN PARTIAL FULFILMENT OF THE REQUIREMENTS  
FOR THE AWARD OF THE DEGREE OF**

**MASTER OF SCIENCE  
IN  
AGRICULTURAL EXTENSION EDUCATION**

**BY  
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(I.C.A.R.)  
KARNAL - 132001 (HARYANA), INDIA  
2017**

**Regn. No. 15-M-DX-01**

*DEDICATED*  
*TO MY*  
*RESPECTED GUIDE,*  
*BELOVED FAMILY,*  
*AND MY BEST FRIEND*

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This is to certify that the thesis entitled, “**EFFECTIVENESS OF DAIRY BASED ENTREPRENEURIAL DEVELOPMENTAL PROGRAMMES**” submitted by **Miss PRIYANKA PANDEY** in partial fulfilment of the requirement for the award of the degree of **MASTER OF SCIENCE** in **AGRICULTURAL EXTENSION EDUCATION** of the **National Dairy Research Institute (Deemed University)**, Karnal, Haryana, India, is a *bona fide* research work carried out by her under my supervision, and no part of the thesis has been submitted for any other degree or diploma.

Dated: <sup>th</sup> 27 MAY 2017

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*“Gratitude is the essence of incredibility”*

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*Place: Karnal, Haryana*

*Date:*

*(Priyanka Pandey)*

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## **LIST OF ABBREVIATIONS**

ALU	–	Animal Livestock Unit
BPD	–	Business Planning and Development
DEDS	–	Dairy Entrepreneurship Development Scheme
DST	–	Department of Science and Technology
e.g.	–	Example
<i>et al.</i> ,	–	Co-workers
FAO	–	Food and Agriculture Organisation
GDP	–	Gross Domestic Product
G.O.I.	–	Government of India
HRD	–	Human Resource and Development
ICAR	–	Indian Council of Agricultural Research
INR	–	Indian Rupees
KVK	–	Krishi Vigyan kendra
NDDDB	–	National Dairy Development Board
NDRI	–	National Dairy Research Institute
NGO	–	Non - governmental organisation
R&D	–	Research and Development
SC	–	Scheduled castes
SHG's	–	Self Help Groups
SINED	–	Society for Innovation and Entrepreneurship in Dairying
ST	–	Scheduled tribes
TBI	–	Technology Business Incubator
UN	–	United Nations
WEL	–	Women empowerment lab

## **Effectiveness of Dairy Based Entrepreneurial Developmental Programmes**

### **ABSTRACT**

Entrepreneurship helps to drive the economy; talking about entrepreneurship among dairy farmers and other business-oriented people, emphasis should be given on systematic awareness and training programmes. Moreover, in India, problem of unemployment is increasing, and it may lead to stagnation in job creation. Thus, dairy sector can be the source of continuous income and employment generation. ICAR-NDRI, Karnal has developed considerable expertise over the last five decades in different areas of dairy production; viz, processing, management and production. Keeping in view the above facts the present study was based on two important units of ICAR-NDRI, Karnal i.e. BPD (Business Planning and Development unit) and WEL (Women Empowerment Lab.) The present study was designed to analyse the effectiveness of dairy based entrepreneurial developmental programmes among the trainees of both the units; the study entitled as "*Effectiveness of Dairy Based Entrepreneurial Developmental Programmes*". Accordingly, 20 respondents were selected randomly from six trainings, with total of 120 respondents. Data were collected through semi-structured interview-schedule. A pre-test was conducted at the time of training; and after a gap of two months, the post-test was conducted, non-parametric test-The Mann Whitney U test was used for measuring the effectiveness of entrepreneurial developmental programmes. At BPD 56.67 per cent were found to be middle-aged, 93.33 per cent had studied up to graduation and above; 36.67 per cent of the respondents had medium herd size; 55.00 per cent had medium mass media exposure, and 50 per cent belonged to medium category of annual income. For the WEL unit, 80 per cent were found to be young; 40.00 per cent of the respondents had educated up to primary level, 40.00 per cent of the respondents had medium herd-size; and 70.00 per cent belonged to low category (<3.08 lacs/annum) of annual income. According to the Mann-Whitney U test, there was a significant difference between the pre-test and post-test mean scores for BPD unit. The training was found to be effective for BPD unit, as far as entrepreneurial abilities were concerned. For WEL unit, no significant difference was recorded, except for the achievement motivation. The training was not effective as far as entrepreneurial abilities were concerned. The most important constraint at BPD was the lack of practical classes. The most important constraint of trainers of BPD was meeting aspirations of candidates from diverse background.

## डेयरी आधारित उद्यमी विकास कार्यक्रमों की प्रभावशीलता का अध्ययन

### सार

भारत में बेरोजगारी की समस्या बढ़ती जा रही है, जिसकी वजह से नौकरियों की अत्यधिक कमी हो गई है, जिसके परिपेक्ष्य में यह कहा जा सकता है कि 'डेयरी क्षेत्र' व्यवसाय एवं सतत आय का एक महत्वपूर्ण मार्ग बन सकता है। यदि उद्यमियता की बात करें, तो इस संदर्भ में भारतीय कृषि अनुसंधान परिषद - राष्ट्रीय डेरी अनुसंधान संस्थान, करनाल, हरियाणा का उल्लेख करना अनिवार्य होगा। इस संस्थान ने डेयरी के क्षेत्र में काफी उपलब्धियाँ प्राप्त की हैं इन सारी बिंदुओं को ध्यान में रखते हुए, वर्तमान अध्ययन के लिए भारतीय कृषि अनुसंधान परिषद - राष्ट्रीय डेरी अनुसंधान संस्थान, करनाल, हरियाणा के दो मुख्य प्रशिक्षण केंद्रों को चुना गया – बीपीडी (व्यवसाय योजना विकास) इकाई एवं डब्ल्यू.ई.एल (महिला सशक्तिकरण प्रयोगशाला) इकाई। इन इकाइयों से कुल 120 उत्तरदाताओं (बीपीडी से 60 एवं डब्ल्यू.ई.एल से 60) का चयन किया गया। व्यक्तिगत साक्षात्कार के द्वारा तैयार की गई साक्षात्कार सारिणी की सहायता से सूचनाएँ एकत्रित की गई। आँकड़े का विश्लेषण 'मान - व्हिटनी यू परीक्षण', आवृत्ति, प्रतिशत तथा संचयी आवृत्ति की मदद से की गई है। बीपीडी इकाई में 56.67 प्रतिशत उत्तरदाताएँ मध्यम आयु के थे; 93.33 प्रतिशत की शिक्षा स्तर स्नातक स्तर अथवा उसके ऊपर का था; 36.67 प्रतिशत के पास मध्यम पशु संख्या थी; 55 प्रतिशत उत्तरदाताओं की संचार मीडिया से मध्यम अनावरण थी; 50 प्रतिशत वार्षिक आय के मध्यम श्रेणी में पाये गए। डब्ल्यू.ई.एल इकाई में 80 प्रतिशत महिलायें युवा वर्ग की थी; 40 प्रतिशत का शिक्षा स्तर प्राइमरी स्तर तक था; 40 प्रतिशत के पास मध्यम पशु संख्या थी; 70 प्रतिशत की वार्षिक आय कम श्रेणी में थी। 'मान - व्हिटनी यू परीक्षण' के द्वारा यह निष्कर्ष निकला कि बीपीडी इकाई में प्रशिक्षण के पूर्व एवं बाद के परीक्षणों के माध्य स्कोर में उल्लेखनीय अंतर आया है। इससे यह निष्कर्ष निकलता है कि बीपीडी इकाई की प्रशिक्षण प्रभावी है। डब्ल्यू.ई.एल इकाई में पूर्व एवं बाद के परीक्षणों में अधिक अंतर नहीं पाया गया; जिससे अनुमान लगाया जा सकता है कि डब्ल्यू.ई.एल. इकाई प्रशिक्षण उद्यमी कौशल के संदर्भ में प्रभावशाली नहीं थी। बी.पी.डी. के प्रशिक्षुओं को पर्याप्त अभ्यास की कमी लगी। बी.पी.डी. इकाई के प्रशिक्षकों को प्रशिक्षुओं की विभिन्न आकांक्षाएँ जो कि विविध पृष्ठभूमि से थे, पूरा करने में कठिनाई महसूस हुई।

## INTRODUCTION

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The importance of dairying in a country like India hardly needs emphasizing. India has vast resources of livestock, which play an important role in national economy and also in socio- economic development of millions of rural households. In fact, the Indian dairy sector contributes to the agricultural GDP (Gross Domestic Product), to a great extent.

Milk, as a consumption item, has never failed to excite. India is the premier producer as well as the largest consumer of milk worldwide; that too, courtesy with small farmers, each having 2-10 heads of cattle as a backyard dairy farming. More significantly, this industry grew with practically no subsidy from the Govt. India had a production of 155.5 million tons milk in 2015-16; whereas the average per capita availability of milk during this period happened to be is 337 gm/day. Infact, India's cattle and buffalo population are 199.9 million and 108.7 million, respectively; and the livestock sector's share in India's GDP is 4.4 per cent (NDDDB, 2017).

The problem of unemployment has increased at a high rate since last few years, and the problem is projected to witness the marginal increase between 2017 and 2018 which may lead to stagnation in job creation .Unemployment in India is projected to increase from 17.7 million last year to 17.8 million in 2017 and 18 million next year (U.N. Report, 2017). Unemployment simply means a situation, where in a person willing to work fails to find a job that earns him/her living. While major portion of the population is facing the situation, the problem needs a serious heed in case of both the urban and rural youth. Youth has gradually lost interest in pursuing academic degrees and technical expertise in various fields, as they find poor prospects of earning a living. Thus, unemployment has resulted into a lot of hardships and a period of agony, particularly among youngsters, leading to frustration.

Dairying in India plays a crucial role in the rural economy that has the high potential of generating income and employment through augmenting productivity of milch animals. India has an immense potential for entrepreneurship development in terms of diversity of rural occupations. Livestock production is one of the promising sectors of entrepreneurship development in India (Bandopadhyay, 2007). Development of entrepreneurship ensures optimal utilization of resources and facilities and value-

## ***Introduction***

addition to product and services. It also helps in developing capability to cope up with the impact of globalization. There are many factors that influence the entrepreneurial behaviour of human beings. According to Amarnath and Samvel (2008), the emergence of entrepreneurs in a society depends upon closely interlinked social, religious, cultural, psychological and economic factors. Understanding the role of these factors is essential for creating an environment which can facilitate the development of entrepreneurial behaviour. Planners and policy makers have viewed it as an effective instrument of social and economic change. The implementation of various dairy development programmes/schemes by Government of India has also helped the dairy entrepreneurs to obtain profits in this sector.

The role of entrepreneurship and entrepreneurial developmental programmes needs a significant mention in reducing poverty and unemployment in India .The Entrepreneurship development programmes helps in motivating the potential entrepreneurs, so that they can solve many of their problems provided proper training is given to them. The important role that entrepreneurship development programmes plays in economic development of nation can now be put in a more systematic and orderly manner in the following points (Hritesh D, 2017):-

- Promotes capital formation.
- Creates large scale employment opportunities.
- Distribution and creation of wealth.
- Promotes balanced regional development.
- Improvement in the standard of living.
- Induces backward and forward linkage and creates social change which facilitates overall development.

### **The different organizations involved in entrepreneurship development are:**

- 1) **IIE (Indian Institute of Entrepreneurship):** It plays essential role in this context. It is an autonomous organization under the ministry of skill development and entrepreneurship. The main aim of the institute is to provide training, research and consultancy activities in small and micro enterprises, with special focus on entrepreneurship development.

- 2) **Entrepreneurship Development Institute of India:** It is an autonomous body and non-profit institution, set up in 1983, under the societies registration act 1860, Public trust act 1950 and has achieved excellence for HRD and research and training.
- 3) **NIESBUD (National Institute for Entrepreneurship and Small Business Development):** It is a premier organization of the ministry of skill development and entrepreneurship, engaged in training, consultancy, research etc. to promote entrepreneurship.
- 4) **Dairy Entrepreneurship Development Scheme (DEDS):** Dairy/Poultry Venture Capital Fund scheme was started in December 2004 with an outlay of INR 25 Crore. This scheme has been fragmented into two separate scheme viz. Dairy Venture Capital Fund & Poultry Venture Capital Fund from the financial year 2008-09. During June 2010, the Dairy Venture Capital Fund scheme was revamped to Dairy Entrepreneurship Development Scheme to make it more effective through wider coverage, enhanced component-wise outlays and by including new components for assistance under the scheme. The new modified scheme DEDS was started from 1<sup>st</sup> September 2010. (Dept. of Animal Husbandry, Dairying and Fisheries, 2017)(www.dadh.nic.in).

**Objectives of DEDS:**

1. Generate self-employment and provide infrastructure for dairy sector.
  2. Setting up modern dairy farms for production of clean milk.
  3. Encourage heifer calf rearing for conservation and development of good breeding stock.
  4. Bring structural changes in unorganized sector so that initial processing of milk can be taken up at village level.
  5. Upgradation of traditional technology to handle milk on commercial scale.
  6. Provide value addition to milk through processing and production of milk products.
- 5) **Rajiv Gandhi Udyami Mitra Yojna (RGUMY) :** The Rajiv Gandhi Udyami Mitra Yojana (RGUMY) has been made functional throughout the country. The scheme is implemented at all India level and not in a state-wise manner. It seeks to provide handholding support and assistance to the potential first generation

## **Introduction**

entrepreneurs who would have successfully completed mandatory entrepreneurship development training or skill development training or vocational training, through the selected lead agencies i.e. 'Udyami Mitras', in the establishment and management of the new enterprise, in dealing with various procedural and legal hurdles and in completion of various formalities required for setting up and running of the enterprise.

- 6) **Stand up India** : Prime Minister Narendra Modi launched the 'Stand up India' scheme on 5 April 2016 as part of the government's efforts to support entrepreneurship among women and SC & ST communities.

The scheme offers bank loans of between 10 lakh to 1 crore (INR) for scheduled castes and scheduled tribes and women setting up new enterprises outside of the farm sector.

- 7) **Society for Innovation and Entrepreneurship in Dairying (SINED), Technology business incubator (TBI) at ICAR-NDRI, Karnal** : An initiative of DST promoted by Society for Innovation & Entrepreneurship in Dairying (SINED), hosted by NDRI, Karnal. TBI promotes the concept of growth through innovations and applications of technology, support and economic development strategies for Small Business Development ([www.ndri.res.in](http://www.ndri.res.in))

The TBI is designed to support and nurture industries in the following areas:

1. Dairy and Food Processing
2. Commercial Dairy Farming
3. Commercial Feed Technology
4. Commercial Fish Farming
5. Commercial Apiculture & Honey Processing

It would be worthwhile to mention that entrepreneurship has become the *buzzword of the day*. Entrepreneurship is the will to develop, to invest in a business venture with a moderate risk-bearing ability, while breaking the traditional business attitude to get success. It includes acts of organizational creation, renewal or innovation that occur within or outside all existing organizations. Entrepreneurs are defined as individuals or groups of individuals, who act independently or as part of a corporate

system who create new organization or who imitate renewal or innovation within an existing organization.

Entrepreneurship is important, because it helps to drive the economy. Further it allows people to bring creativity to the market place. The benefits of entrepreneurship includes job creation and socio- economic development. There are vast human resources, which remain unutilized by manpower. Thus, entrepreneurship is the dominant factor, which helps in the growth process of society the as a whole. The rapid population growth rate is a hindrance to the development of our nation, but if the entrepreneurship skills are inculcated among the masses, it may prove to be a boon for the nation.

Of late the dairy sector has been gaining huge importance since last few years due to its contribution to the economic development of the nation. Various dairy based entrepreneurship development programmes have successfully contributed to the gainful employment. E.g. Dairy Entrepreneurship Development Scheme (DEDS). When we talk about entrepreneurship among dairy farmers and other business-oriented people, emphasis should be given on systematic awareness and training programmes. Proper awareness about the latest technologies, resource availabilities, and market conditions should be provided to the potential entrepreneurs, and progressive dairy farmers of the respective areas. Entrepreneurship development programmes aim to develop entrepreneurship through motivation development, providing support services and sustaining the efforts of the first time- entrepreneurs.

It would be worthwhile to mention that ICAR-NDRI, (Indian Council of Agricultural Research-National Dairy Research Institute) Karnal, a premier institute of has developed a considerable expertise over the last few decades in different areas of dairy production, processing, management and HRD. The institute is continuously working to develop R&D (Research and Development) and HRD (Human Resource and Development) programmes to better serve the nation in terms of food security, employment generation, poverty alleviation and economic prosperity.

Keeping in view the above facts, the present study was based on two important units of ICAR- NDRI, Karnal i.e. BPD (Business Planning and Development) and the WEL (Women Empowerment Lab.) unit. The BPD was established under the aegis of NAIP (National Agricultural Innovation Project). The main objectives of the BPD unit are:

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- To promote dairy and food agri-business entrepreneurs through enhancing their technical and business skills.
- Commercialization of dairy and food technologies.
- Provides services on marketing assistance, quality evaluation and R&D.

The next training unit undertaken for the research study was WEL (Women empowerment lab), the WEL was established in the year 2012 and become operational with effect from 21<sup>st</sup> May 2013 under Dairy Extension Division of the Institute. It has been developed to impart training in the field of dairying and food processing to women SHGs of Karnal and nearby areas. The main objectives of WEL are as follows:-

- Creating awareness about dairy ventures.
- Mobilization of women SHGs to adopt these technologies as an enterprise for sustainable income generation.
- To impart knowledge and skills in the field of value added milk products and preservation of fruits and vegetables.
- To develop entrepreneurship skills of farm women.

The present study was designed to analyze the effectiveness of dairy based entrepreneurial developmental programmes among the trainees of both the units of NDRI i.e. BPD and WEL. The following specific objectives were formulated for the study entitled as “Effectiveness of Dairy Based Entrepreneurial Developmental Programmes”:

1. To analyze the different training domains used during the training.
2. To assess the effectiveness of entrepreneurial developmental programmes on the trainees.
3. To identify the constraints perceived by the trainees and trainers and to obtain their feedback with respect to training.

## **Scope of Study**

The present study was mainly confined to the trainees who had undergone trainings pertaining to entrepreneurship development programmes of the two important training units of ICAR-NDRI, Karnal i.e. BPD (Business Planning and Development unit) and WEL (Women Empowerment Lab.). The study would provide some inputs to

the dairy- based entrepreneurs for their capacity building. It may also suggest what areas of support should be emphasized to enhance the knowledge, skill and entrepreneurial abilities of trainees. Since assessment of effectiveness is a crucial component of any training programme, this study would also help in the assessment of the extent to which the trainees were benefitted. The results of this study will be useful for concerned authorities for developing strategies to increase the effectiveness of the training programmes, especially in terms of entrepreneurial characteristics of the trainees. However, the constraints as perceived by the trainees could be of immense help for the training units, in order to plan future activities, in an effective and efficient manner.

**Limitations of study**

The study was conducted with all efforts to find out the relevant facts about the concerned topic and area of research, but the study might have had been subjected to some usual limitations, listed as below:-

1. The data were collected from a very small percentage of entrepreneurs, therefore findings cannot be generalized.
2. The results may be subjected to some prejudices and bias, as the data were based on the opinion and feedback of the respondents.
3. Although the relevant variables were selected with utmost care, but few more variables might be still missing from the research design.
4. The study suffers from the usual limitations of time, finance and other resources, as encountered by a single student investigator.

**Organisation of Thesis**

This dissertation has been organized into six chapters in a logical sequence to facilitate its handling and report writing as given below:

1. Introduction
2. Review of Literature
3. Research Methodology
4. Results and Discussion
5. Summary and Conclusions
6. Bibliography

## REVIEW OF LITERATURE

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In order to comprehend the nuances involved in any particular field of research, we need to analyse the previous attempts made at the research area being undertaken, as previous findings provides basis to the research. It provides the appropriate guidelines for working in the concerned direction. Accordingly, in the context of this study, an attempt was made to review the relevant researches, and the same have been presented under the following sub-heads:-

- 2.1 Concept of entrepreneur and entrepreneurship
- 2.2 Concept of training
- 2.3 Variables that effect entrepreneurial abilities
- 2.4 Constraints perceived by the trainees and trainers with respect to the training programme.

### **2.1 Concept of entrepreneur and entrepreneurship**

Entrepreneur is one of the most important input in the economic development of a country or of regions within the country. Entrepreneurs are the foundations for establishment of successful and profitable business ventures. Cantillon (1730), a French economist had initially applied the term “entrepreneur” for the business purpose, in order to designate a dealer who purchases the means of production for combining them into marketable products. Thus earlier, the emphasis was laid on the business aspects for establishing a profitable enterprise. Schumpeter (1934) emphasized that: entrepreneurs are innovators, who use the process of shattering the *status quo* of the existing products and services to set up new products and services. Focused approach on new products and services was highlighted during this period. Joshi and Kapur (1973) described farm entrepreneur as the “person or a group of persons who organizes and operates the business and is responsible for the results i.e. losses and gains from the business. Entrepreneur is pioneer in organizing and developing the farm, was emphasized by them. The entrepreneur is solely responsible for all kinds of business related financial issues for taking further action in this regard. Gartner (1985) viewed that entrepreneur is a person, who started a new business when there was none before. Entrepreneurial competence makes all the difference in the rate of economic growth. Several factors go into the making of an entrepreneur. Individuals who initiate, establish, maintain and expand new

## ***Review of literature***

enterprises constitute the entrepreneurial class. The socio-economic and political conditions, the availability of technology and know-how, existence of markets, services and the incentives, all have bearing on the growth of entrepreneurship (Desai, 2000). Porchezian (1991) defined farm entrepreneur as “one who maintains one or more enterprises like poultry, dairy and sericulture apart from the main occupation of crop husbandry”. Entrepreneurs are engaged in diverse fields to exploit the available resources and opportunities to make their respective enterprises profitable. Chatterjee (1992) defined entrepreneur as “one, who creates something new, undertakes risk, organizes production and handles the economic uncertainty”. He termed entrepreneurship as the ‘mission’ and an entrepreneur as the “missionary”. Entrepreneurs are thus more concerned with making something new, i.e. an enterprise full of risk and uncertainty and innovative aspect. Harold (1994) stated that entrepreneurs take personal risks in initiating change, and they expect to be rewarded for it. They need some degree of freedom to pursue their ideas, which in turn, requires that sufficient authority has to be delegated. An entrepreneur is basically an innovator who introduces something new into the economy also capable of taking investment decision, a calculated risk under uncertainty, prompt and wise decision in selection of a product or product mix, technology mix & marketing (Bheemappa, 2003) . Whatever be the definition, entrepreneurs are considered instrumental in changing the socioeconomic condition of the country and utilize the abundance of opportunities to overcome the resistance which hinders the development of nation.

### **Concept of entrepreneurship**

As globalization reshapes the international economic landscape, and technological changes create greater uncertainty in the world economy, the dynamism of entrepreneurship is believed to be able to help to meet the new economic, social and environmental challenges. Governments of the nations increasingly consider entrepreneurship and innovation to be the corner stones of a competitive national economy.

Some of the common elements in the ways entrepreneurship has been defined by different authors are listed below after review of previous studies:-

Ganeshan (2001) stated that “entrepreneurship” was one’s capacity for innovation and caliber to introduce innovative techniques in the business operations. Thus innovation is the most important aspect of entrepreneurial ability, which is crucial for

entrepreneurship development. Bheemappa (2003) described “entrepreneurship” as the creative and innovative response to the environment which can take place in a variety of fields of social endeavor, business, industry, agriculture, education, social work etc. and it is the potent limiting factor in economic development. According to Reddy (2004) entrepreneurship is the composite skill, the resultant of a mix of many qualities and traits. These include intangible factors such as imagination, readiness to take risks, ability to bring together and put to use other factors of production, capital labor, land etc. and also other factors such as ability to mobilize scientific and technological advances. Thus, entrepreneurship is a type of behavioural modification, which is important for utilization of resources and mobilization of monetary resources.

## **2.2 Concept of Training.**

Significance of women empowerment through training also needs to be mentioned. In this regard, Sharma (2015), conducted a study for evaluating the behavioral construct of self-help group members of Karnal, Haryana, using t test, the data showed the impactful results as far as adoption of scientific dairy farming practices and milk products preparation are concerned. Ponnusamy (2013) highlighted the importance of public private partnership in the women empowerment in dairying. Tai (2006) confirms the importance of supervisors training framing – which predicts the self-efficacy and training motivation of trainee, subsequently affects their reactions, learning and transfer motivation. Lynton and Parekh (1967) described that “Training then comes to consist largely of well-organized opportunities for participants to acquire necessary understanding.” Further, he separated the whole training process under pre-training, training and post-training phases. It is an important means of improving human potential and increasing the efficiency of personnel. Effective utilization of adequate resources is important for better performance of employees of the organization.

## **2.3 Variables affecting entrepreneurial abilities**

### **Innovativeness:-**

Reddy (1997) revealed that majority (62.00%) of the entrepreneurs had medium innovativeness, whereas 20 per cent of them had high and 18 per cent of them had low innovativeness. Bhagyalaxmi *et al.* (2003) observed that majority (69.44%) of the entrepreneurs had medium level of innovativeness, followed by 15.56 per cent and 15 per cent of respondents having high and low level of innovativeness, respectively. On the other hand, Suresh (2004) indicated that the milk producers in the district had medium,

## ***Review of literature***

high and low innovativeness in order of (55.00%), (24.58% ) and( 20.42%) respectively. Nagesha (2005) reported that majority (63.30%) of the respondents had medium innovativeness and (18.30%) of the respondents were categorized as having low and high innovativeness, Similarly, Kumar (2008) indicated that 39.17 per cent of the respondents were having medium level of innovation, followed by 32.90 per cent and 27.92 per cent of them having high and low level of innovativeness, respectively.

### **Achievement motivation**

Chandrapaul (1998) discussed that 52.50 per cent of entrepreneurs had medium achievement- motivation, followed by 22.50 per cent and 25.00 per cent of entrepreneurs having low and high achievement motivation respectively. In other case, Kumar (2001) reported that 44.16 per cent of respondents had medium achievement motivation followed by 28.34 and 27.50 per cent of entrepreneurs having low and high achievement motivation, respectively. Suresh (2004) indicated that 61.25 per cent of the dairy entrepreneurs had medium achievement motivation, followed by 20.42 per cent, and 18.33 per cent of them having low and high level of achievement motivation, respectively. Pal (2006) found that majority of respondents (60%) were having medium level of achievement motivation. Thus it can be concluded from the previous findings that medium category of dairy entrepreneurs were present in majority in all the research areas conducted by the eminent researchers.

### **Risk orientation**

Kumar (2001) indicated that 38.34, 35 and 26.66 per cent of entrepreneurs had low, medium and high levels of risk taking ability, respectively. Subramanyam (2002) revealed that majority of the entrepreneurs (75%) had medium risk preference, followed by those having high (13.34%) and low (11.66%) levels of risk- preference. Bhagyalaxmi *et al.* (2003) in study on profile of rural women micro entrepreneurs revealed that majority of the respondents (75.56%) had medium risk orientation followed by low (15.56%) and high (13.33%) risk orientation categories. Suresh (2004) conducted study on entrepreneurial behaviour of milk producers in Andhra Pradesh, which indicated that majority of respondents had medium level of risk taking ability followed by low and high level at the rate of 62.02, 24.58 and 13.34 per cent, respectively.

### **Economic motivation**

Chauhan and Patel (2003) in their study on entrepreneurial uniqueness of poultry entrepreneurs reported that slightly less than half (48.47%) on the poultry entrepreneurs had medium level of economic motivation followed by 31.25 per cent and 20.00 per cent with high and low level of economic motivation, respectively. Hanchinal (1999) conducted study on privatization of extension service and performance of farmers and extension personnel in Kaveri district of Karnataka observed that majority (43.75%) of the respondents had medium level of economic motivation, while 34.17 and 22.08 per cent of the respondents belonged to high and low economic motivation category, respectively. On the contrary, Meena (2002) reported that majority of the respondents had low economic motivation. Gour (2002) revealed that majority (56.39%) of the dairy farmers had high level of economic motivation, followed by those having low (30.82%) and medium (12.79%) levels of economic motivation, respectively. On the other hand, Bhagyalaxmi *et al.* (2003) found that 45 per cent of dairy farmers had medium category of economic motivation, followed by those having high (30.00%) category of economic motivation. Chauhan and Patel (2003) reported that 48.75 per cent of the entrepreneurs had medium level of economic motivation, followed by those having high (13.25%) and low (20.00%) levels of economic motivation.

### **Cosmopolitaness**

Patel *et al.* (2003) observed that majority of entrepreneurs (74.00%) had medium level of cosmopolitaness, whereas (14.50%) per cent of entrepreneurs had high level of cosmopolitaness. Anitha (2004) indicated that more than one-fourth (28.30%) of entrepreneurs had high level of cosmopolitaness, whereas 44.20 per cent of them had medium level of cosmopolitaness, and only (27.50%) of the respondents were having low level of cosmopolitaness. In this attribute also, medium category of cosmopolitaness was the dominant. Suresh (2004) reported that (45.00%) of entrepreneurs had low level of cosmopolitaness, whereas 44.17 per cent of them had medium level and 10.83 per cent of them had high level of Cosmopolitaness respectively.

### **Decision making ability**

Chandrapaul (1998) concluded that majority of entrepreneurs (50.90%) had medium level of decision making ability, followed by low (25.80%) and high (23.30%) decision-making categories, respectively. Kumar (2001) indicated that majority (46.66%) of the entrepreneurs had medium decision making ability, followed by those having low

## ***Review of literature***

(27.50%) and high (25.84%) decision making abilities, thus the entrepreneurs with medium level of decision-making ability were present in majority. Nagesha (2005) reported that majority (74.20%) of the respondents had intermediate decision-making abilities, followed by those having less rational (13.30%) and rational (12.50%) decision-making abilities, respectively.

### **Self confidence**

Chaudhari (2006) observed that the 49.00 per cent of trained dairy farmers had high self-confidence, followed by medium (43.00%) self-confidence and small per cent of trained dairy farmer (18.00%) was found to be in low self-confidence. However 48.00 per cent of untrained dairy farmers had medium, followed by low (31.00%) and high (21.00%) of self-confidence.

### **2.4 Constraints perceived by the trainees and trainers**

Reddy *et al.* (2009) reported that non availability of good dairy animals, non-remunerative prices for milk, high cost of concentrates, non-availability of green fodder, high cost of dairy animals, irregular payment for milk by procuring agencies, low water availability and lack of irrigation facilities, were major constraints in dairy farming. Riaz (2008) revealed through his studies that transportation, infrastructure, power supply, law and order situation was not satisfactory as well as no direct support from the government were major constraints in milk production and procurement.

Jeenger (2012) concluded that the high transportation cost of animals (91.00%), as well as high cost of veterinary medicines (81.50%). Poor understanding of training programmes due to low level of literacy (80.00%) and A.I. facilities were not available timely (80.00%) were major constraints. Vani (2013) studied on dairy micro enterprise management among women entrepreneurs. The study revealed the fact that majority of women entrepreneurs (80.00%) expressed bad marketing facilities as major problems followed by lack of consultancy and counselling services (67.50%) and competition with other micro enterprises for limited local markets (66.60%). Rathod *et al.* (2014) revealed that 33.33 per cent farmers perceived that non availability of information booklets followed by unawareness about extension activities (23.33%) and also lack of training programme (12.66%) as major constraints in livestock service related aspects.

## RESEARCH METHODOLOGY

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The term Research methodology in social science is of great significance, since it provides the outline of the different procedures and method to be used in the analysis and interpretation of the research. It is the detailed plan and structure of investigation required to answer the research questions. 'Methodology' is the 'set of procedures' or methods which are used during various stages of analysis for solving the research problem systematically and scientifically.

Thus research methodology is considered as the blue print of the research architect. This chapter deals with the details of sampling technique, research design, construction of research tools, variables, and the methods used for the collection and analysis of data. Thus the given section has been designed in order to cover the aforesaid details under the given sub headings-

- 3.1 Locale of the research
- 3.2 Sampling plan
- 3.3 Research design
- 3.4 Variables and their measurement
- 3.5 Operationalization of variables
- 3.6 Tools and techniques of data collection
- 3.7 Statistical tools used for analysis.

### **3.1. Locale of Research:**

Dairy farming forms an essential part in India's economy. Moreover the contribution of this sector in the rural economy of Haryana state needs to be emphasized. The location of premier institute in dairying i.e. NDRI in the Karnal district of Haryana is one of the reason for such spectacular results related to dairy farming. ICAR-NDRI has developed considerable expertise over the last few decades in different areas of dairy production, processing, management and HRD. Along with this, the institute also provides training to the milk processors and budding entrepreneurs, through the two most important training units of ICAR-NDRI

## ***Research Methodology***

- a. BPD unit (Business Planning and Development)
- b. WEL unit (Women empowerment Lab)

Both the training units have been purposively selected for the research work, as both the units are involved in imparting training in the field of dairy and food processing, to the potential entrepreneur through enhancing their technical and business skills., emphasizing on the commercialization of dairy- based products.

Some other reasons are:-

1. Much of the research work has been done on the different training units of NDRI, but the BPD and WEL still lacks due heed.
2. Assessing the effectiveness of trainings imparted is crucial to find out whether the objectives set forth have been achieved or not.

### **3.2. Sampling plan:-**

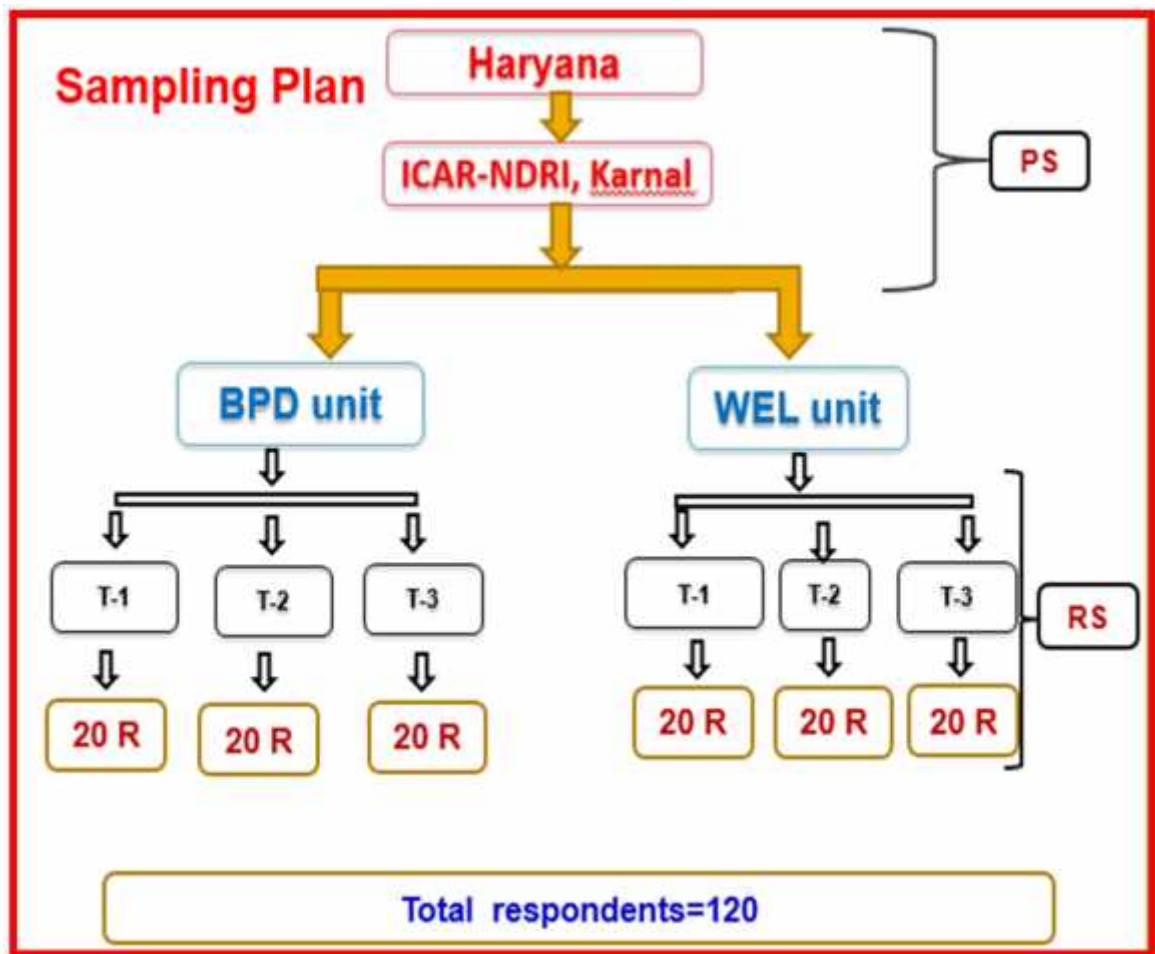
The two training units of NDRI, Karnal, Haryana were selected purposively for the study. WEL (Women Empowerment Lab) of the Dairy Extension Division, ICAR-NDRI and BPD (Business Planning and Development Unit) established under the aegis of NAIP (2006).

Selection of Respondents:- Three trainings from each units and 20 respondents from each training were selected randomly. Thus pools of 120 respondents from six trainings were interviewed to get firsthand information on entrepreneurial abilities.

### **3.3 Research Design**

A good research design should be relevant to the purpose or objective of the study and related with the nature of the problem to be studied. Pre-test post-test experimental design was used to identify the effectiveness on entrepreneurial components. There was gap of 2 months between the pre-test and post-test.

Picture 3.1: Sampling Plan



### 3.4 Variables and their measurement

After consultation with experts and review of literature, the independent variables related to the purpose of study were identified and listed in table 3.1.

The dependent variables i.e. the characteristics that effect the entrepreneurial abilities, was measured in terms of seven dimensions namely- innovativeness, achievement motivation, decision- making ability, risk orientation, cosmopolitaness, self-confidence and economic motivation.

The scale developed by Chaudhari (2006) was used to measure the first six dimensions of entrepreneurial characteristics and Supe and Singh (1969) to measure the economic motivation respectively.

**Table 3.1: Independent variables and their measurement.**

Sl. No.	Independent Variables	Measurement
1.	Age	Direct questioning
2.	Education	Schedule was developed
3.	Family size	Schedule was developed
4.	Social participation	Schedule was developed
5.	Herd size	Schedule was developed
6.	Annual income	Schedule was developed
7.	Mass media exposure	Schedule was developed
8.	Extension contact	Schedule was developed

**Table 3.2: Dependent variables and their Measurement**

Sl. No.	Dependent Variable	Measurement
1.	Effectiveness of Dairy based entrepreneurial developmental programmes	Mann Whitney U test
a)	Innovativeness	Scale developed by Chaudhari (2006) was used with suitable modifications
b)	Achievement motivation	
c)	Decision making ability	
d)	Risk orientation	
e)	Self confidence	
f)	Cosmopolitaness	
g)	Economic motivation	Scale developed by Supe and Singh (1969) was used with suitable modifications

**3.5 Operationalization of variables****3.5.1 Age: -**

It was operationalized as the chronological age of the respondents in terms of nearest whole number at the time of investigation. The respondents were classified in the following three categories according to the procedure followed by Government of India classification (Population Census Report 2011):-

Sl. No.	Category	Years
1	Young	Up to 35 yrs.
2	Middle	36-50 years
3	Old	Above 50 yrs

**3.5.2 Education: -**

It was operationally defined as the level of formal education attained by an individual respondent. The respondents were categorized into different classes as well as score had been given as below:

Sl. No	Category	Score
1	Illiterate	0
2	Primary	1
3	Middle	2
4	Secondary	3
5	Higher secondary	4
6	Graduation and above	5

**3.5.3 Family size: -**

It was referred to the number of individuals living under the same roof and sharing kitchen together in a household. The respondents were categorized in the following manner and respective scores were assigned accordingly:-

Sl. No.	Category	Score
1	Up to 5 members	0
2	More than 5 members	1

## ***Research Methodology***

### **3.5.4 Social participation: -**

Social participation was conceptualized as the degree of involvement of the respondents in any formal or informal social organization. The respondents were assigned a score of '0' for no membership and 1 for being involved in membership. The respondents were grouped into three categories based on cumulative square root frequency.

### **3.5.5 Herd Size:-**

It was referred to the number of dairy animals possessed by the respondents at the time of investigation. It was measured with the help of schedule and the respondents were grouped into small, medium and large group on the basis of cumulative square root frequency.

### **3.5.6 Mass media exposure:-**

It was referred to the frequency of exposure of the respondents to different mass media sources viz, newspapers, radio, TV, dairy melas, campaign, exhibitions, etc. To measure this, a schedule was developed. The response was obtained on three point continuum-viz regularly (2), seldom (1), and never (0). The total score was calculated for each respondent by summing up the scores. Based on the obtained score, the respondents were categorized on the basis of cumulative square root frequency method.

### **3.5.7 Extension contact:-**

It was operationalised as the extent of contact with different extension personnel. It was measured on three point continuum namely most often, sometimes and never with scores of 2, 1 and 0, respectively. The total score was calculated for each respondent by summing up the scores. Based on the obtained score, respondents were classified into 3 categories by cumulative square root frequency method.

### **3.5.8 Annual income:-**

It was operationalized as total income earned by the respondents from dairy. It was measured with the help of schedule and respondents were categorized into small, medium, and large income groups according to cumulative square root frequency method.

### **3.5.9 Effectiveness of dairy based Entrepreneurial Developmental Programmes:-**

Effectiveness was defined as the degree to which objectives of the Entrepreneurial Developmental Programmes were achieved and the extent to which intended results were produced/obtained, as reflected through seven indicators chosen specifically for this study, namely:

1. Innovativeness
2. Achievement Motivation
3. Decision Making Ability
4. Risk Orientation
5. Self Confidence
6. Cosmopolitaness
7. Economic Motivation

#### **1. Innovativeness:-**

It is the degree to which an individual adopts new ideas relatively earlier than others in the social system. It was operationally defined as the degree to which a dairy entrepreneur adopts new ideas relatively earlier than other dairy entrepreneurs in his social system. It consisted of ten statements in respect of entrepreneurship training programme and management, which were common to all the dairy entrepreneurs included in the sample. If the respondent would give a positive response, a score of (1) and for negative response, a score of (0) would be given consequently. Thus the maximum score was 10 and minimum was 0.

#### **2. Achievement motivation:-**

Achievement motivation can be defined as a social value that emphasizes a desire for the excellence in order for an individual to attain a sense of personal accomplishment. It was operationally defined as the desire for excellence of dairy entrepreneur to attain a sense of personal accomplishment. The instrument consisted of five statements, each statement had two options and out of these, one was concerned with achievement motivation. Thus the total score for each dairy entrepreneur ranges from 0 to 5.

**3. Decision making ability:-**

It was operationally defined as the ability of dairy entrepreneurs to select the most efficient means from among alternatives on the basis of scientific criteria for achieving maximum economic profit.

The instrument had eight decision criteria. The response categories for each item were “deciding after consulting others”, “deciding after consultation with experts”, and self-decision. The alternative score for each was 0, 1, and 2, respectively. Thus the possible score for each respondent on his decision -making ability was 0 to 16.

**4. Risk orientation:-**

It was operationalized as the degree to which dairy entrepreneur is oriented towards risk and uncertainty in facing problems in dairy enterprise. The instrument consisted of six statements and response was obtained on three point continuum, viz ‘agree’ ‘undecided’ and disagree’ a weightage of 2,1, and 0 respectively was assigned to the response categories, in case of positive statements and scoring was reversed for negative statements. Statement number 1, 3, 5 and 6 were positive, while 2 and 4 were negative statements. The total score range was 0 to 12.

**5. Self-confidence:-**

It was operationally defined as the degree of belief in one’s own abilities in achieving the thing one wishes. It consisted of eight questions, the responses were obtained on dichotomous continuum i.e. in ‘yes’ and ‘no’ form by assigning the scores of 1 and 0 respectively for positive questions and it was reversed for negative questions. The question number 1, 5 and 7 were positive questions and 2,3,4,6 and 8 were negative questions. The total score range of 0 to 8.

**6. Cosmopolitaness:-**

It was operationally defined as the degree a diary entrepreneur is oriented towards outside of his social system. The instrument consisted of five statements and responses were obtained on three point continuum viz “agree” ‘undecided’ and “disagree” by assigning a weightage of 2, 1 and 0 respectively for the given statements. Thus the total score range was 0 to 10.

## **7. Economic motivation:-**

It was referred to the occupational success in terms of profit maximization and the relative values on individual place on economic ends. The scale developed by Supe and Singh (1969) was used to measure the economic motivation with slight modification. The scale had five statements in which four were positive and one was negative. It was measured on three-point continuum such as ‘agree’ ”undecided” and “disagree” relative with weightage of 2,1 and 0 for positive statements and 0,1 and 2 for negative statements respectively, the maximum and minimum score was 10 and 0.

The effectiveness was measured through Mann Whitney U test. The overall effectiveness was calculated as the mean of all the indicators.

### **3.6 Tools and techniques of data collection**

#### **3.6.1. Preparation of interview schedule:-**

The interview schedule was prepared in accordance with the objectives of the research work. The respondents were interviewed personally at the desired location and the responses were carefully recorded. Separate pre-test and post-test was conducted with the help of structured interview schedule.

#### **3.6.2. Data collection:-**

The interviews were conducted during August 2016 to January 2017. Each question was made clear to the respondents on their specific queries while emphasizing the key points. After a gap of 2 months, post-test was conducted with the help of same structured interview schedule and the concerned respondents were contacted via mobile communications, e-mails, and other facilities.

The responses were recorded and filled in interview schedule for both the pre-test and post-test, were scrutinized and tested immediately for their completeness in all respects.

### **3.7 Statistical tools used in the Study.**

The data collected from the selected dairy entrepreneurs were scored, compiled, tabulated through ‘Microsoft Excel’ software keeping in view the objectives of the study. The data were subjected to different statistical tests which as on follow to draw the meaning conclusions. The tools used for the analysis and interpretation of the recorded data were frequency and percentage method, Mann Whitney U test statistic and Cumulative square root frequency method.

## RESULTS AND DISCUSSIONS

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After following the selected procedures in the methodology, the collected data were analyzed in accordance with the objectives of the study undertaken. The obtained results were presented in the following subheadings after analysis of data:-

- 4.1 Socio-personal and socio-economic characteristics of respondents.
- 4.2 Analysis of different training domains used during the training.
- 4.3 Assessment of the effectiveness of Entrepreneurial Developmental Programmes on the components of entrepreneurial characteristics.
- 4.4 Constraints and feedback perceived by the trainees and trainers, with respect to the training.

### **4.1 Socio-personal and socio-economic characteristics of respondents.**

#### **4.1.1 Age:-**

The study revealed that (56.67%) of the respondents belonged to middle-aged group (33.33%) of the respondents were in young age group, whereas and (10.00%) of the respondents belonged to old age group. The given data corresponds to the analysis obtained for the BPD unit and presented in table 4.1 .

The other set of data obtained from the WEL (Women Empowerment Lab) revealed that majority (80.00%) of the respondents belonged to young age group, followed by 15.00 per cent of the respondents to middle- age group and (05.00%) of the respondents belonged to old age group. The younger generation is more enthusiastic and interested in trying new dimensions of learning for making larger profits in their respective business ventures.

#### **4.1.2 Family size**

It was observed from the Table 4.2 that 36.67 per cent of trainees had small family size (up to 5 members) and 63.33 per cent of the trainees were having large family size (more than 5 members) at WEL unit. This could be due to the fact that most of the trainees of WEL were from semi urban or rural areas of Haryana and the trend of joint family is still prevalent in these areas.

## **Results and Discussion**

The other set of data (Table 4.1) revealed that (53.33%) of the trainees had large family size (greater than 5 members) and (46.66%) of the trainees had small family size (up to 5 members) at BPD unit.

**Table 4.1 Socio-personal characteristics of respondents (BPD) (n=60)**

Sl. No.	Variables	Categories	Frequency	Percentage
1.	Age (in Years)	Young (up to 35 years)	20	33.33
		Middle-aged (36-50 years)	34	56.67
		Old( >50 years)	06	10.00
2.	Education	Higher secondary	04	06.67
		Graduation & above	56	93.33
3.	Gender	Male	57	95.00
		Female	03	05.00
4.	Family Size	Upto 5 members	28	46.67
		More than 5 members	32	53.33
5.	Herd Size (in Animal Livestock Unit)	Low (<5.57)	20	33.33
		Medium (5.57-8.57)	22	36.67
		High (>8.57)	18	30.00
6.	Social participation	Low (<1.42)	25	41.67
		Medium (1.42-2.08)	28	46.67
		High (>2.08)	07	11.66
7.	Extension contact	Low (<9.8)	30	50.00
		Medium (9.8-14.7)	29	48.33
		High (>14.7)	01	01.67
8.	Mass media exposure	Low (<8.8)	08	13.33
		Medium (8.8-10.3)	33	55.00
		High (>10.3)	19	31.67
9.	Annual income (INR lakh per annum)	Low (<5.6)	24	40.00
		Medium (5.6-9.2)	30	50.00
		High (>9.2)	06	10.00

**Table 4.2 Socio-Personal Characteristics of Respondents (WEL) (n=60)**

Sl. No.	Variables	Categories	Frequency	Percentage
1.	Age (in years)	Young (<35 years)	48	80.00
		Middle Aged (36-50)	09	15.00
		Old(>50)	03	05.00
2.	Education	Illiterate	20	33.33
		Primary	24	40.00
		Middle	07	11.68
		Secondary	05	08.33
		Higher secondary	02	03.33
		Graduation & above	02	03.33
3.	Family Size	Upto 5 members	22	36.67
		More than 5 members	38	63.33
4.	Herd size (in ALU)	Low(<7.74)	20	33.33
		Medium (7.74-9.95)	24	40.00
		High (<9.95)	16	26.67
5.	Social participation	Low( <1.94	15	25.00
		Medium (1.94-283)	23	38.33
		High (<2.83)	22	36.67
6.	Extension contact	Low(<6.45)	18	30.00
		Medium (6.45-8.48)	26	43.33
		High (>8.48)	16	26.67
7.	Mass media exposure	Low (<3.85)	19	31.67
		Medium (3.85-5.70)	19	31.67
		High (>5.7)	22	36.66
8.	Annual income (INR lakh per annum)	Low (<3.08)	42	70.11
		Medium (3.08-6.42)	07	11.66
		High (>6.42)	11	18.33

## ***Results and Discussion***

### **4.1.3 Education.**

The study revealed that, at BPD, 93.33 per cent of the respondents belonged to graduate and above category and 06.67 per cent of the respondents belonged to higher secondary category,.

This could be due to the fact that the trainees at BPD belonged to a good family background with high literacy level. The trainees were equipped with good technical knowledge and skills in their respective fields. Most of them belonged to urban area, so the exposure to educational institutions were very satisfactory.

On the other hand, according to the data analysis of the trainees at Women Empowerment Lab, it was found that 33.33 per cent of the trainees belonged to illiterate category and 40.00 per cent belonged to primary category, 11.68 per cent belonged to middle category and 08.33 per cent belonged to secondary, 03.33 per cent belonged to higher secondary and graduation categories.

The reasons for the above distribution of data could be the fact that women in the rural areas did not have proper access to higher studies in educational institutions, the importance of women empowerment and female literacy still require due care. Lack of interest and lack of encouragement from the family member could also be one of the reason for the same.

### **4.1.4 Herd size**

The given table 4.1 shows that (33.33%) of trainees had low, 36.67 per cent of the trainees had medium, and (30.00%) of the trainees had high herd size at BPD unit. The probable reasons could be that a large proportion of respondents had their own dairy farm. The analysed data at WEL also showed that 33.33 per cent of the respondent had low, 40.00 per cent had medium and 26.67 per cent of the respondent had large herd size.

### **4.1.5 Social participation**

It was observed from the table 4.1 that 46.67 per cent of the trainees had medium, 41.67 per cent of the trainees had low, and 11.66 per cent had high social participation. The reasons for the above could be the fact that the trainees at BPD unit had membership in different organizations as well as they were actively involved in social issues related to their respective regions.

The table 4.2 also shows that 38.33 per cent of the trainees at WEL had medium, 25.00 per cent had low and 36.67 per cent had high social participation respectively. The

probable reasons for the same could be the fact that, the women trainees at WEL unit had interest and orientation towards the participation and membership in different organizations, and most of the trainees were member of self-help groups at their respective villages. The trainees also showed their interest towards membership in social organization for future also, some of them were members of *anganwadi* centers also.

#### **4.1.6 Mass media exposure:-**

The study revealed that 31.67 per cent of the trainees had low and medium exposure, and 36.66 per cent had high, respectively at WEL unit. The reasons could be due to the fact that, trainees had good exposure and interest toward television, radio as the source of entertainment and information, though other means of mass communication was also given emphasis, but the above two components were most important for the trainees at the WEL unit.

The study also revealed that mainly 55.00 per cent of the trainees had medium, 13.33 per cent had low, and 31.67 per cent had high mass media exposure respectively. The reasons for the above could be due to the fact that, since the trainees belonged to a well-educated strata of the society, they were well oriented to the use of newspapers, articles, leaflets, folders and other components of mass media.

#### **4.1.7 Extension contact**

The study showed that 50.00 per cent of the trainees had low, 48.33 per cent were having medium and only 1.67 per cent were having high level of extension contact at BPD. The probable reasons for such results could be the fact that the trainees were unaware about the existence of extension linkages in their respective localities.

The study also revealed that 43.33 per cent of the trainees had medium, 30.00 per cent of the trainees had low, and 26.67 per cent had high level of extension contact at WEL. The probable reasons for the same could be the fact that the trainees were well acquainted with the various facilitators of extension agencies, though few of them were not capable of providing sufficient information related to their contact and exposure to the extension linkages in their respective localities.

#### **4.1.8 Annual income**

The study revealed that 70.11 per cent of the trainees were having low level of annual income (<3.08 lakh per annum), 11.66 per cent had medium (3.08-6.42 lakh per

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annum) and 18.33 per cent had high level of annual income (>6.42 lakh per annum) at WEL unit.

The reasons for such results could be due to the fact that trainees depend largely on a specific occupation for livelihood. They didn't showed inclination towards diversified farming and depended on either livestock or any particular business for their livelihood.

Table no. 4.1 showed that 50.00 per cent of the trainees had medium (5.6-9.2 lakh per annum), 40.00 per cent had low (<5.6 lakh per annum), and 10.00 per cent had high level of annual income (>9.2 lakh per annum). The trainees at BPD were acquainted with business skills as they showed good interest towards their respective business on query. Although few of them above practiced dairying as their source of additional income, apart from a major business in a particular field.

### **4.2 Analysis of different training domains used during the training.**

The following are the important training domains of BPD unit:-

#### **4.2.1 Different training domains of BPD**

1. Commercial dairy farming
2. Milk products and processing
3. Miscellaneous

The table 4.3 revealed the analysis of the training domains of the BPD unit, for the year (2009-2016). The data reflected that within last few years, maximum no. of trainings were conducted in the field of commercial dairy farming (42), followed by, the no of trainings in case of milk products and processing was, (19) and in the (miscellaneous) category was 20 .The miscellaneous group consisted of the trainings on the following aspects:-

1. Laboratory testing and product manufacturing
2. Artificial Insemination in goat
3. Reproductive management in farm animals
4. Exposure visit on -prospectus of dairying for rural dairy farmers.
5. Scientific dairy husbandry practices
6. Infertility management in dairy animals
7. Training on cheese manufacturing
8. Training programme on agribusiness technology

**Table 4.3: Analysis of different training domains of BPD Unit, for the last five years. (2009-2016)**

Training Domains	Total no. of trainings	Duration	Total no. of participants	No. of faculty members	Duration of lecture / training (hrs)	Duration of practicals/training (hrs)
Milk products- processing, marketing and commercialization	19	10	270	10-12	1-1.5	2
Commercial dairy farming	42	10	932	10-15	1-1.5	3
Miscellaneous	20	6-10	137	10-12	1.5	2.5-3

Note: Miscellaneous training domain included-

Laboratory testing and product manufacturing, AI in goat, reproductive management in farm animals, exposure visit on-prospectus of dairying for rural dairy farmers, scientific dairy husbandary practices, infertility management in dairy animals, training on cheese manufacturing, exposure visit of veterinary officer, training program on agribusiness of dairy technology.

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**Table 4.4- Analysis of the modules of instruction used by the trainers (BPD).**

Training Domains	Lecture	Compendium	Group Discussion	Case Studies	Simulation Techniques	Practical Exercises	Expert Session	Success Stories
Milk Products- Processing, Marketing and Commercialization	✓	✓	✓	✓	✓	✓	✓	✓
Commercial dairy farming	✓	✓	✓	✓	✓	✓	✓	✓
Miscellaneous	✓	✓	✓	✓	✗	✓	✓	✓

**Table 4.5 Analysis of the modules of instruction used by the trainers (BPD)**

Training Domains	Provision of field visits	Learning by doing	Feedback mechanism
Milk Products- processing, marketing and commercialization.	✓	✓	Impact assessment proforma
Commercial dairy farming	✓	✓	Impact assessment proforma
Miscellaneous	✓	✓	Impact assessment proforma

Table 4.3 revealed that the total number of participants were highest for commercial dairy farming, i.e. 932, followed by milk products and processing (270), miscellaneous (137). The total number of faculty members for all the domains ranges from 10-15 in number. The duration of lectures was 1-1.5 hours for all the domains, and 2.5-3 hours for practicals. It can be concluded that significant emphasis needs to be given on miscellaneous trainings domains, as well as on duration of practicals as participants needed more practical oriented approach as it makes learning easier.

It was found from the study that, the important modules of instructions were lecture, compendium, group discussion, simulation techniques, practical exercises, expert session, and success stories. All the modules of instruction were followed in all the domains except for the simulation techniques which was not followed in the miscellaneous training domain.

The study revealed that provision of field visits and learning by doing method was followed in all the training domains, and for assessing the impact of the training on the trainees, an impact assessment proforma was generated by BPD unit which consist of detailed description about the participants, and his/her dairy related enterprise details.

#### **4.2.2 Analysis of different training domains of WEL unit.**

The study revealed (table 4.6) that the duration for number of training per year for milk products and processing training domain was high i.e. 8-10 per year and the number of trainings for preservation techniques was found to be 5 per year. The WEL unit is also engaged in providing advisory consultancy services for the formation of SHG (Self-Help Groups).

##### **Modules of instruction at WEL unit.**

The important modules of instruction followed by trainer of WEL were as follows-

1. Lecture
2. Handout
3. Group discussion
4. Practical
5. Method demonstration
6. Result demonstration

**Table: 4.6 Analysis of different domains of WEL unit.**

Training Domains	No. of Trainings/year	Duration	No. of Participants	No. of Faculty Members	Duration of Lecture	Duration of Practicals
Value added milk products	8-10	1-2	20-25	1	1-1.5hrs	3-4 hours
Preservation of products	5	1-2	20	1	1-1.5hrs	3 hours
Advisory consultancy services on formation of Self-Help Groups.	Regular meeting and encouraging local women towards SHG formation and livelihood security.					

**4.3 Assessment of effectiveness of entrepreneurial developmental programmes on the components of entrepreneurial characteristics.**

Entrepreneurial components (achievement motivation, cosmopolitaness, decision making ability, economic motivation, innovativeness, risk bearing ability and self-confidence) of trainees were analysed with the help of Mann Whitney U test and presented in tabular form (Table 4.7 and Table 4.8).

**4.3.1 Effectiveness of entrepreneurial components of trainees of BPD unit.**

**4.3.1.1. Achievement motivation**

The study revealed that there had been considerable increase in the pre-test and post-test scores respectively, which accounted for 15.67 per cent. The standard error also showed slight decrease from 0.164 to 0.118, which indicated that the training was found to be effective as homogeneity of the group was maintained, and the higher value of standard error in the pre-test indicated the heterogeneity and diversity among the trainees in all aspects which considerably reduced after training. The p value for achievement motivation was 0.047 which was less than 0.05, thus it can be concluded that the p-value was significant at 5 per cent level of significance. Z-value was found to be -1.985.

**Table 4.7 Entrepreneurial components of the trainees (BPD) (n=60)**

<b>BPD UNIT</b>		<b>Mean score</b>			<b>Mann Whitney Results</b>		
<b>Sl.No.</b>	<b>Components</b>	<b>Pre-test</b>	<b>Post-test</b>	<b>Percent change</b>	<b>U-statistic</b>	<b>Z-value</b>	<b>p-value</b>
1.	Achievement Motivation	2.87±0.164	3.32±0.118	15.67	1434.5	-1.985	0.047
2.	Cosmopolitaness	6.65±0.154	7.23±0.133	08.72	1320.0	-2.632	0.008
3.	Decision Making Ability	8.03±0.211	9.47±0.192	17.90	860.50	-5.050	0.000
4.	Economic Motivation	6.02±0.243	6.75±0.177	12.12	1410.0	-2.107	0.035
5.	Innovativeness	6.62±0.192	7.20±0.144	8.76	1430.0	-2.017	0.044
6.	Risk Bearing Ability	7.73±0.159	8.12±0.159	5.04	1524.0	-1.520	0.128
7.	Self Confidence	3.65±0.190	5.10±0.140	39.70	785.00	-5.449	0.000
8.	<b>Overall Effectiveness</b>	<b>5.94±0.065</b>	<b>6.74±0.055</b>	<b>13.47</b>	<b>390.00</b>	<b>-7.427</b>	<b>0.000</b>

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**Table 4.8. Entrepreneurial Components of the Trainees (WEL) (n=60)**

WEL UNIT		Mean score			Mann Whitney		
S.N.	COMPONENTS	Pre-test	Post-test	Percent change	U-statistic	Z-value	p-value
1	Achievement Motivation	0.93±0.095	1.32±0.113	41.90	1364.5	-2.490	0.013
2	Cosmopolitaness	5.31±0.166	5.49±0.151	03.38	1678.0	-0.661	0.509
3	Decision Making Abilty	4.97±0.295	5.13±0.294	3.21	1692.0	-0.572	0.567
4	Economic Motivation	5.42±0.223	5.74±0.223	5.90	1604.5	-1.042	0.298
5	Innovativeness	5.18±0.142	5.40±0.128	4.24	1620.0	-0.990	0.322
6	Risk Bearing Ability	5.95±0.151	6.18±0.151	3.86	1586.0	-1.163	0.245
7	Self Confidence	3.91±0.170	4.13±0.173	5.62	1643.0	-0.843	0.399
8	<b>Overall Effectiveness</b>	<b>4.53±0.077</b>	<b>4.77±0.081</b>	<b>5.30</b>	<b>1377.5</b>	<b>-2.224</b>	<b>0.026</b>

#### **4.3.1.2 Cosmopolitaness**

The study revealed that there had been considerable increase (08.72%) in the pre and post test scores. The standard error also showed decrease from 0.154 to 0.133 in the pre and post-test respectively. The variation in the value of standard error reflected the fact that homogeneity of the group was maintained with respect to all the aspects of teaching and learning criteria. The Z value was found to be significantly high i.e. -2.632 which revealed that the difference between single value and mean was high which supported the fact that training was effective in changing the cosmopolitaness nature of the respondents. The P value was found to be 0.008 which was less than 0.05, and thus the given set of scores was found to be significant at 5 per cent level of significance. The U value was found to be 1320.

#### **4.3.1.3 Decision making ability**

It was revealed from the table 4.7 that there was considerable increase in the pre and post test scores, which accounted for 17.90 per cent. The standard error was found to be decreased from 0.211 to 0.192 which reflected that the behavior of group was polarized towards one direction with respect to all the aspects of decision making abilities. The P value was found to be 0.000 which was less than 0.005, which reflected that the score was highly significant at 5 per cent level of significance, thus, it can be interpreted that the training was effective in improving the decision making ability of the respondents, as most of them started the construction of dairy farms and other dairy related ventures. The U statistic was found to be significantly lower, 860 which reflected that the training was most effective in the decision making ability component.

#### **4.3.1.4. Economic motivation**

The study revealed that the mean score increased from 6.02 in the pre-test to 6.75 in post-test respectively. The standard error decreased from 0.243 to 0.177 which indicated favourable impact on the trainees with respect to all the components of teaching and learning. The p-value was found to be 0.035 which was less than 0.05, which represented that the value was significant at 5% level of significance. The Z value was found to be -2.107 which reflected high difference between mean and single values, and the U statistic was found to be 1410. Thus, it can be concluded that the training was effective in enhancing the economic motivation of the respondents.

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### **4.3.1.5 Innovativeness**

From the table 4.7 it is revealed that there had been considerable increase in the pre-test and post-test scores which accounted for 08.76 per cent increase. The standard error was reduced from 0.192 to 0.144, which indicated that the training was effective in inculcating the innovativeness among trainees. The Z-value was found to be highly negative i.e. -2.017 which reflected that the difference between the mean and single value was high. The p-value was found to be less than 0.05 i.e. 0.044 which revealed that the value was significant at 5 per cent level of significance. The U statistic was found to be 1430.

### **4.3.1.6 Risk bearing ability**

The data from the table 4.7 revealed that the pre-test scores increased considerably which accounted for 05.04 per cent increase. The Z value was found to be -1.520 which indicated that the difference between mean and single values was high, and the U statistic was found to be 1524. The p-value was again found to be less than 0.05, i.e. 0.128 which proved that the value was significant at 5 per cent level of significance. Thus it can be interpreted that trainees were involved in their respective business ventures with high risk bearing ability.

### **4.3.1.7 Self confidence**

From the table 4.7 it was revealed that the pre-test and post-test scores have increased significantly from 3.65 to 5.10 which accounted for 39.70 per cent increase, and the standard error was found to be decreased from 0.170 to 0.140, which reflected that the group was stabilized by the training and the behavior of the trainees were also polarized. The U-value was found to be significantly low i.e. 785 which indicated that the training was effective in making the trainees confident enough to achieve success in their respective business areas. The Z-value in this case was also found to be significantly high, -5.449 which showed the high difference between mean and single values. The p-value was found to be 0.000 which is less than 0.005, which reflected that the value was significant at 5 per cent level of significance.

### **4.3.1.8 Overall effectiveness**

For measuring the overall effectiveness of entrepreneurial developmental programmes, non-parametric test i.e. Mann Whitney U test was employed. Pre-test and post-test was conducted having gap of 2 months and it was found that the training was

effective at 5 per cent level of significance for the BPD unit having overall mean score of 5.94 during pre-test which was found to be 6.74 during post-test with the standard error of 0.065 in pre-test and 0.055 in post-test respectively.

#### **4.3.2 Effectiveness of entrepreneurial components of trainees of WEL unit.**

##### **4.3.2.1 Achievement motivation**

From the table 4.8 it can be concluded that there had been considerable increase in the pre-test and post-test scores respectively, which accounted for 41.9 per cent increase. The p-value for achievement motivation was 0.013 which was less than 0.05, thus it can be concluded that the value was significant at 5 per cent level of significance. Z-value was found to be high which indicated that the training was effective for this component.

##### **4.3.2.2 Cosmopolitaness**

From the analysis of table 4.8 it can be concluded that though there had been increase in the pre-test and post-test scores which accounted for 3.38 per cent increase. The standard error also decreased from 0.166 to 0.151 in the pre and post-test respectively. The variation in the value of standard error reflected the fact that homogeneity of the group was maintained with respect to all the aspects of teaching and learning criteria. The Z value was found to be quite low, i.e. -0.661 which also showed the fact that the difference between single value and mean was low which further indicated that the training was not effective in changing the cosmopolitaness nature of the respondents. The p-value was found to be 0.509 which was more than 0.05, and thus the given set of scores was not significant at 5 per cent level of significance. The U-value was found to be 1678.

##### **4.3.2.3 Decision making ability**

From the table 4.8 it can be concluded that there was increase in the pre-test and post-test scores, which accounted for 3.21 per cent increase. The standard error was found to decrease from 0.295 to 0.294 which reflected that the behavior of group was not polarized towards one direction with respect to all the aspect of decision making ability. The p-value was found to be 0.567 which indicated that the data was not significant at 5 per cent level of significance .Thus, it can be interpreted that the training was not effective in improving the decision making ability of the respondents. In this case, the Z value was found to be highly negative i.e.-0.572 which showed that the difference

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between mean and single values were not high. The U-statistic was found to be significantly higher i.e.1692 which also revealed that the training was not effective in the decision making ability component.

### **4.3.2.4 Economic motivation**

From the table 4.8 it is reflected that the mean score increased in the pre-test and post-test respectively which accounted for 5.90 per cent increase. The p-value was found 0.298 which was more than 0.05, which further indicated that the value was not significant at 5 per cent level of significance. The Z-value was found to be -1.042 which reflected the low difference between mean and single values, and the U statistic was found to be 1604.5. Thus, it can be concluded that the training was not effective in enhancing the economic motivation of the respondents.

### **4.3.2.5 Innovativeness**

Information about innovativeness is presented in table 4.8 which showed that there had been increase in the pre-test and post-test scores which accounted for 4.24 per cent increase. The standard error was reduced from 0.142-0.128.The Z value was found to be highly negative i.e. -0.990 which shows that the difference between the mean and single values were low. The p-value was found to be more than 0.05 i.e. 0.322 which revealed that the value was not significant at 5 per cent level of significance. The U statistic was found to be 1620. Thus, it can be concluded that the training was not effective in the given component of innovativeness.

### **4.3.2.6 Risk bearing ability**

Table 4.8 revealed that the pre-test scores increased considerably which was accounted for 3.86 per cent increase. The Z value was found to be -1.163 which reflected that the difference between mean and single values was high, and further U statistic was found to be 1586. The p-value was 0.245 which indicated that the value was not significant at 5 per cent level of significance. The trainees were involved in their respective business ventures with low risk bearing ability.

### **4.3.2.7 Self confidence**

Table 4.8 revealed that the pre-test and post-test scores have increased which accounted for 5.62 per cent increase. The U-value was found to be significantly higher i.e. 1643 which indicated that the training was not so effective in making the trainees

confident enough to achieve success in their respective business areas. The Z-value in this case was also found to be significantly low i.e. 0.843 which indicated the low difference between mean and single values. The p-value was found to be 0.399 which was greater than 0.005, from which it can be concluded that the value was not significant at 5 per cent level of significance.

#### **4.3.2.8 Overall effectiveness**

For measuring the overall effectiveness entrepreneurial developmental programmes, non-parametric test – Mann-Whitney-U-test was employed and the results (table 4.9) are discussed as following. Pre-test and post-test was conducted with a gap of 2 months and it was found that the training was not effective except for the component of achievement motivation, at 5 per cent level of significance having overall mean score of 4.53 during pre-test which was found to be 4.77 during post-test having a standard error of 0.077 in the pre-test and 0.081 in the post-test respectively. From the study it was found that the training was not effective in case of entrepreneurial characteristics. But it can be said that the WEL unit is more focused towards imparting necessary knowledge and skills in the field of dairying and food preservation.

#### **4.4 Constraints and feedback perceived by the trainees and trainers, with respect to the training.**

##### **4.4.1 Constraints perceived by the trainees (BPD)**

Table 4.9 reveals the list of some relevant constraints perceived by the trainees of BPD unit. Among all the constraints obtained, it was clearly visible that cent per cent of the respondents expressed lack of participative approach and lesser number of practicals as major constraint (40%) as it was also felt that theoretical aspects were given more emphasis. Following this, the other major constraints were emphasis on educational perspective, rather than commercial establishment perspective (25.00%) and descriptions regarding most crucial process in commercial applications were brief in nature (17.00%). Sometimes it becomes difficult for the participants to comprehend the complex and science related technical terms who have non-scientific background, as a consequence of which 18 per cent of the respondents revealed this aspect as one of the important constraint. Very less (03.00%) trainees revealed that delivery of lectures were haphazard in nature and it could have been arranged in sequence depending on the contents of

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theory and practicals. Similarly, few trainees (03.00%) revealed that there was lack of interest among some faculty members regarding imparting training.

**Table 4.9 Constraints perceived by the trainees (BPD) (n=60).**

Sl.No	Constraints	Frequency	Percentage (%)
1	More emphasis on educational perspective, rather than commercial establishment perspective.	15	25
2	Lack of interests among the faculty members towards imparting training.	2	3
3	Upkeep of equipment needs improvement.	7	12
4	Lack of practical classes, as it was felt that practical were lesser than it should be.	25	40
5	Most crucial processes in commercial applications were brief.	10	17
6	Lack of adequate emphasis on topics like, cheese making and ice cream making, as simple topics are easy to cover, e.g. khoa and sweets.	7	12
7	Lack of proper awareness about the training programme.	10	17
8	Emphasis on more technical and scientific words which were difficult for comprehension by local people.	11	18
9	Delivery of lectures were haphazard in nature.	2	3
10	Mixing of local Language during classes created significant barrier for the trainees from different regions of the country.	6	10

**4.4.2 Constraints perceived by the trainees (WEL)****Table 4.10 Constraints perceived by the trainees (WEL) (n=60)**

Sl.No.	Constraints	Frequency	Percentage
1	Lack of proper awareness and information about the training programme.	10	17.00
2	Lack of time due to their busy schedule in household works.	23	38.33
3	Lack of proper marketing channel of milk products at village level.	15	25.00
4	Lack of support from family members	20	33.00
5	Use of technical terms by experts:-difficulty in comprehension.	8	13.00
6	Lack of scientific equipments at home for practice.	9	15.00
7	Time management for lectures and practicals.	2	3.33
8	Shortage of experts for different topics at the training center.	2	3.33
9	Lack of proper work space in the classroom premises.	3	5.00
10	Lack of multimedia facility as module of instruction.	5	8.30

The data revealed that majority of the trainees (75%) confirmed that they were not able to get sufficient time out from their busy schedule of household works, as a result of which they were not able to utilize the skill and advantages of the training received at their own level in practical situations. Some of the respondents (25%) felt that “lack of proper marketing channel” in their respective areas was one of the major constraint for marketing of the products. The women in the village lack frequent exposure to mass media and other awareness programs, so it was observed as a major constraint as (17%) of the respondents revealed that there had been lack of proper

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awareness and information about the training programme. As we know that women in the rural areas do not get enough support and motivation from their family members and as a consequence of which they do not get opportunity and confidence to move forward and try innovative ventures. Only few trainees (3%) revealed “lack of proper space in the classroom premises and lack of multimedia facility as module of instruction”, as their constraints. Only 2 per cent of them observed proper time management for lecture and practicals as one of their constraints.

### **4.4.3 Constraints perceived by the trainers (BPD).**

**Table: 4.11 Constraints perceived by the trainers (BPD) (n=12)**

Sl.No	Constraints	Frequency	Percentage
1	Scheduling of training overlaps with the classes and assignments.	5	41.66
2	Meeting aspirations of candidates from diverse background and varied knowledge level.	10	83.33
3	Poor response from the input provider companies.	2	16.66
4	Diverse knowledge level of trainees, difficult to discuss the topics in all aspects.	11	91.66
5	Lack of proper emphasis on the business potential of technologies.	3	25.00
6	Lack of sufficient knowledge on present status of dairy industry and its products.	4	33.33
7	Dealing with participants from different background.	7	58.33
8	Difficult to comprehend their behavior and understanding level.	6	50.00
9	Lack of practical knowledge and awareness about the basic terminologies associated with management and processing.	3	25.00
10	Lack of harmony in the group keeping in view their educational level and profession.	2	16.66

Table 4.11 revealed that among all the constraints perceived by the trainers, selected twelve in number, of BPD unit, the most important was meeting aspirations of candidates from diverse background (91.66%), and other major constraint encountered was, the diverse knowledge level of the trainees, which makes it difficult to discuss all the topics in details. It was also observed that the group of trainees consisted of people with varied knowledge level, which sometimes make it difficult for the trainer to comprehend the fact that, from “where to start”, either from basics or advanced level. Thus the most important point that came out of study was that the trainees should be selected according to their knowledge level for the concerned programs, and the group of people should be divided into different strata, according to their knowledge level, so that it would be easy for the trainers to provide effective teaching .The homogeneity of the group should be maintained for better delivery of knowledge and effective change in behavior of the trainees. The other minor constraints were, lack of harmony in the group keeping in view their educational level, profession and poor response from the input provider companies (16.66%).

#### **4.4.4 Feedback obtained from the Trainees (BPD)**

Feedback is very important for the improvement of any training programme. Through the feedback we can analyse that in which field the trainees faced problems or satisfaction.

1. Trainees were equipped with knowledge regarding mineral mixtures, feed supplement and diet balance during training.
2. Trainees got updated with knowledge regarding animal breeds and machines used in the dairy products processing.
3. The trainees observed improvement in already established and running dairy farm after training.
4. Focused improvement from traditional to scientific approach towards dairy farming and processing.
5. Techniques of handling the milk, milk products, dairy animals, improved with special emphasis on hygiene practices.
6. Emphasis should be given on what can make dairy a better business rather than innovate for research reasons.

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7. Knowledge of the basics can be given before going to discuss advanced topics.
8. Trainees suggested that sweets are being made for ages, emphasis on newer recipes and ideas could be given for attracting the learners.
9. Trainees suggested addition of commercialization element to the training.
10. Costing of products in comparison with market availability, how to reduce costs, emphasis on what drives the market and what could change and so on should be focused in training.

The information revealed the feedback obtained from the trainees of BPD unit. The trainees had a very favorable response regarding the training, and they expressed their desire and interest towards attending such more trainings in future.

Regarding the feedback, the trainees felt that they were equipped with basic knowledge regarding mineral mixtures and feed supplements. With this, they also got updated with knowledge regarding different breeds and machines in the field of dairying. Some of the trainees had already established dairy farm, and they observed significant improvements in the same. The trainees also got acquainted with scientific dairy farming practices. Regarding suggestions, some of the trainees suggested that significant emphasis should be given on making dairying a better business, rather than innovating for research reasons. The other points suggested were, knowledge of the basics should be given before going to advanced level. Most importantly, they preferred addition of commercialization element to the training and wanted that proper emphasis should be given on the commercialization aspect of dairy products, existing prices, market-driven research etc. Overall the training had a positive impact on the behavior and attitude of the trainees as they expressed their desire and also inquired about attending such more trainings in future also.

### **4.4.5 Feedback of the trainees (WEL)**

1. Nutritional security of family is ensured as far as quality is concerned after the training.
2. Indirect saving of income as purchasing cost has been reduced due to training.
3. Awareness about the scientific techniques and better dairy products.
4. Training provided them a chance of exposure amidst of busy schedule of household works in the village.

5. They expressed lack of time for the venture, particularly as women were engaged with household activities; though according to obtained feedback, they were willing to attend such trainings in future also.

The given information revealed the feedback obtained from the trainees of WEL unit. According to response obtained, it was concluded that women were engaged in making of dairy products at home, mainly for consumption purposes. This indirectly saves the income and the purchasing costs of the input commodities also get reduced. They also got acquainted with scientific techniques and better dairy based products. Since women in the village area, didn't get time from their busy schedule, the training was one of the opportunity to get exposure for them amidst of their busy schedule. The feedback was positive, and the women expressed their interest to attend such trainings in future also.

## SUMMARY AND CONCLUSIONS

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In order to combat the problem of unemployment in a country like India, we need to focus on different strategies as this problem is increasing which may lead to stagnation in job creation. In this context, entrepreneurship happens to be an important element of any such strategy, because it helps to stabilize the economy of the nation. The benefits of entrepreneurship includes job creation and socio-economic development. Entrepreneurship among dairy farmers and other business-oriented people is important for proper utilization of resources and for making profits in the allied sectors which contributes to Indian economy, for this purpose, emphasis should be given on systematic awareness and training programmes. Proper awareness about the latest technologies, resource availability, and market conditions should be provided to the potential entrepreneurs, and progressive dairy farmers of the respective areas. Thus, entrepreneurship is the dominant factor, which helps in the growth process of society as a whole. Dairy sector has been gaining huge importance since last few years due to its contribution to the economic development of the nation. Various dairy based entrepreneurship development programmes has been successfully contributed to the gainful employment.

It would be worthwhile to mention the name of ICAR-NDRI (Indian Council of Agricultural Research-National Dairy Research Institute), a premier institute of dairying in India, when we discuss about dairy related ventures. ICAR-NDRI has developed considerable expertise over the last few decades in different areas of dairy production, processing, management and HRD (Human Resource Development). Keeping in view the above facts the present study was based on two important units of ICAR- NDRI, Karnal i.e. BPD (Business Planning and Development unit) and WEL (Women Empowerment Lab.) unit. The present study was designed to analyze the effectiveness of dairy based entrepreneurial developmental programmes among the trainees of both the units of NDRI i.e. BPD and WEL. The following specific objectives were formulated for the study entitled as “Effectiveness of Dairy Based Entrepreneurial Developmental Programmes:”

1. To analyze the different training domains used during the training.

## **Summary And Conclusions**

2. To assess the effectiveness of entrepreneurial developmental programmes on the trainees.
3. To identify the constraints perceived by the trainees and trainers and to obtain their feedback with respect to training.

### **5.1 Research Methodology**

The present study was entitled as “Effectiveness of Dairy Based Entrepreneurial Developmental Programmes” which aimed at measuring the effectiveness of dairy based entrepreneurial programmes which was operationally defined as the degree to which objectives of the Entrepreneurial Developmental Programmes were achieved and the extent to which intended results were produced/obtained, as reflected through seven indicators chosen specifically for this study, namely: Innovativeness, Achievement Motivation, Decision Making Ability, Risk Orientation, Self Confidence, Cosmopolitanism, and Economic Motivation. The study was conducted at ICAR-NDRI’s two training units viz, Business Planning and Development unit and Women empowerment Lab. Units have been purposively selected for the research work, as both the units are involved in imparting training in the field of dairy and food processing, to the potential entrepreneur through enhancing their technical and business skills., emphasizing on the commercialization of dairy- based products. From BPD unit, 60 respondents were selected randomly with 20 respondents from each training (total=three), and for WEL (Women empowerment Lab.) again, 60 respondents were selected randomly with 20 respondents from each training (total=three), thus a total of 120 respondents were selected for the study. Data was collected through semi structured interview schedule. A pre-test was conducted at the time of training and after a gap of two months, post-test was conducted and responses were recorded. The recorded data was analysed using a non-parametric test-Mann Whitney U test using SPSS software for measuring the effectiveness of entrepreneurial developmental programmes, cumulative frequency method for socio-personal variables and frequency and percentage method for constraints perceived by the trainees and trainers respectively.

### **5.2 Major Findings of the Study**

#### **A. Socio-personal and Socio economic variables of the respondents**

Business Planning and Development (BPD) Unit in ICAR-National Dairy Research Institute is established under the aegis of National Agricultural Innovation

Project (NAIP) to harness the scientific knowledge and innovation available at the institute for the benefits of farming community, entrepreneurs, students and industry.

After the analysis of data, following major findings were deduced:-

**BPD UNIT (Business Planning and Development Unit)**

1. Majority of the respondents (56.67%) were found to be middle aged.
2. Majority of the respondents (93.33%) had educated upto graduation and above.
3. A sizeable number of respondents (53.33%) had family size (more than 5 members).
4. It was found that (36.67%) of the respondents had medium herd size.
5. It was found that (46.67%) of the respondents had medium social participation.
6. Majority of the respondents (55.00%) were having medium mass media exposure.
7. Regarding annual income, it was found that most of the respondents (50.00%), belonged to medium category (Rs 5.6-9.2lacs/annum).

**WEL UNIT (Women Empowerment Lab)**

WEL (Women Empowerment Lab.), was established in the year 2012 and become operational on 21<sup>st</sup> May, 2013 under Dairy Extension Division of the institute. It has been developed to impart training in the field of dairying and food processing to women SHGs of Karnal and nearby areas. The following major findings were deduced after the analysis of data:-

1. Majority of the respondents (80.00%) were found to be young.
2. Regarding education, (40.00%) of the respondents had educated up to primary level.
3. Majority of the respondents (63.33%) had more than 5 members in their family.
4. About (40.00%) of the respondents had medium herd size.
5. It was found that (38.33%) of the respondents had medium social participation.
6. It was found that (36.66%) of the respondents had high mass media exposure.
7. Regarding annual income, it was found that most of the respondents (70.11%), belonged to low category (< Rs3.08 lacs/annum).

## ***Summary And Conclusions***

### **B. Entrepreneurial Components of the Respondents**

The effectiveness of the training programmes was measured in terms of the seven components of entrepreneurial characteristics with the help of Mann Whitney U Test.

The major findings deduced after the analysis of data for both the units were:-

#### **BPD UNIT (Business Planning and Development Unit).**

1. Out of all the components selected for the study ,decision making ability and self-confidence was found to have highest effectiveness, ( $p=0.000$ ), the value was found to be significant at 5 per cent level of significance.
2. The other components also showed considerable increase in pre and posttest mean scores respectively, with p value  $<0.05$  in all the cases.
3. The Z value was found to be negative in all the cases.
4. The overall effectiveness was found to be 5.94 in the pre-test and 6.74 in the post- test respectively, with the p-value of 0.000. Thus it can be concluded that, the training was effective as far as entrepreneurial characteristics were concerned.

#### **WEL UNIT (Women Empowerment Lab.)**

1. Out of all the components, only achievement motivation was found to have higher effectiveness ( $p$  – value was less than 0.05).
2. The other set of components though showed considerable increase in the pre-test and post-test mean scores, but the value was not significant at 5 per cent level of significance.
3. The overall effectiveness was found to be 4.53 in the pre-test and 4.77 in the post- test respectively, with p value of 0.026, though there had been slight increase in the pre-test and post- test scores, but the training was not effective as far as entrepreneurial characteristics were concerned.
4. The WEL unit focusses mainly on imparting all the necessary skills through the training programme, which helps the women to apply the same practically, in their own local situations.

**C. Constraints Perceived By the Trainees**

BPD Unit (Business Planning and Development Unit).

1. The most important constraint at BPD was the lack of practical classes, as it was felt by trainees that more practical classes should be organized.
2. The other important constraint was:-more emphasis on educational perspective, rather than commercial establishment perspective”.
3. The other constraints which were observed included:-lack of proper awareness about the training programme, haphazard nature of delivery of lectures, mixing of local language during classes created significant barrier for the trainees from different regions of the country.

**WEL Unit**

1. The most important constraint at WEL unit was that the trainees don't get sufficient time, as they were mostly busy with household works.
2. The other important constraints were, - Lack of support from family members, lack of proper marketing channel of milk products at village level.
3. The other constraints which were observed low among the respondents were: - Time management for lectures and practicals, shortage of experts for different topics at the training center, lack of proper work space in the classroom premises.

**D. Constraints Perceived by the Trainers (BPD).**

1. The most important perceived constraint was meeting the aspirations of candidates from diverse background, (40.00%) and other major constraint encountered was the diverse knowledge level of the trainees, which makes trainers difficult to discuss all the topics in details.
2. It was observed that the group of trainees consisted of people with varied knowledge level,
3. Thus the most important point which came out of study indicated that the trainees should be selected according to their knowledge level for the concerned programs, and further the group of people should be divided into different strata, according to their knowledge level.

### ***Summary And Conclusions***

4. The other perceived constraints which were:-dealing with participants from different background, lack of practical knowledge and awareness about the basic terminologies associated with management and processing, lack of harmony in the group keeping in view their educational level and profession.

### **5.3 CONCLUSIONS**

1. Most of the respondents at BPD unit belonged to medium age group, while majority respondents at WEL belonged to young age group.
2. Majority of the respondents at BPD were graduate and above, while very small number of the respondents were having primary education at WEL.
3. For annual income, most of the respondents were in medium category in BPD, while majority of the respondents were in low category for WEL.
4. Number of trainings per year for all the domains of BPD ranges from 10-12/year.
5. Impact Assessment proforma was available for all the domains.
6. The important training domains at WEL included preparation of value added milk products, and preparation and preservation of tomato paste.
7. Eight To Ten trainings per year was provided for value added milk products including five trainings per year for the preservation techniques.
8. According to the Mann Whitney U test, there was a significant difference between the pre-test and post-test mean scores for BPD unit.
9. The training was found to be effective for BPD unit as far as entrepreneurial abilities were concerned with the overall effectiveness of 5.94 in the pre and 6.74 in the post test respectively.
10. For WEL unit, no significant difference was reported except for achievement motivation with overall effectiveness of 4.53 in the pre-test and 4.77 in the post-test respectively.
11. WEL unit was specifically engaged in imparting skills and nutritional security to the trainees in different training domains.
12. Within last few years, maximum no of trainings were conducted in the field of commercial dairy farming (42), followed by milk products and processing was,

(19). And further the total number of trainings in the group (miscellaneous) were 20.

13. The most important constraint perceived at BPD was the lack of practical classes, as it was felt by trainees that practicals were lesser than there should be.
14. It was also found that, nutritional security of the family was ensured with indirect saving of income at WEL unit.
15. Improvement in feed supplements as well as focused approach towards scientific dairy farming practices was recorded in different training programme.

#### **5.4. IMPLICATIONS AND SUGGESTIONS FOR FUTURE RESEARCH**

1. This study would prove to be helpful for the organisers /coordinators of the training programme, and for other developmental programmes designed for betterment of young entrepreneurs.
2. The study would also be helpful in highlighting the importance of such training in socio-economic development of the trainees.
3. The study have also emphasized on the improvement aspects in the quality of training imparted at both the units.
4. The study was restricted only to the units of ICAR-NDRI, similar research can be conducted in the different training organizations which are imparting trainings in entrepreneurial developmental programmes in different parts of the countries.
5. The effectiveness of entrepreneurial components was observed to be less among the women trainees of WEL. The probable reasons could be the lack of sufficient exposure and opportunity for the women of the state, thus similar researches can be conducted with the emphasis over empowerment of women including their relation via-a-vis socio-economic status/profile of the women.

Picture 4.1- GLIMPSES OF DATA COLLECTION (WEL)



Picture 4.2- GLIMPSES OF DATA COLLECTION (BPD)



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	<b>EFFECTIVENESS OF DAIRY BASED ENTREPRENEURIAL DEVELOPMENTAL PROGRAMMES</b>	
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**INTERVIEW SCHEDULE**

**1) PERSONAL INFORMATION**

NAME:

FATHER'S/HUSBAND'S NAME:

CONTACT NO: MOB:

EMAIL:

VILLAGE:

BLOCK:

DISTRICT:

**2) SOCIO-PERSONAL VARIABLES:**

AGE:

FAMILY SIZE: UPTO 5 MEMBERS:

MORE THAN 5 MEMBERS:

FAMILY TYPE: NUCLEAR

JOINT:

**3) EDUCATION :**

Category	Please Specify
Illiterate	
Can read only	
Primary	
Middle	
Secondary	
Higher Secondary	
Graduate and above	

4) GENDER: MALE FEMALE

**5) SOCIAL PARTICIPATION**

Have you ever been a member or office bearer of any organisation? Tick ( ): Yes/ No. If yes, give the following particulars:

S.No	Organization	Membership (yes or no)
1	Village panchayat	
2	Dairy co-operative society	
3	SHG's	
4	Farmer associations	
5	NGOs and youth clubs	

**6) EXPERIENCE IN DAIRYING: ..... years**

7) **Annual Income (INR)** :From Agriculture: Allied Discipline:

**8) Size of land holding:** \_\_\_\_\_

Land	Size
Agricultural Land	
Area (if any)	

**9) Herd Size**

Animals	Indigenous cow	CB Cow	Buffalo	total
Calves				
Milking				
Dry				
Total				

### 10) EXTENSION CONTACT:-

Sl. No.	Information Source	Frequency of Contact		
		Most often(2)	Sometimes(1)	Never(0)
<b>A. personal localite:</b>				
1.	Neighbors/ Friends			
2.	Progressive farmer			
3.	Village Panchayat / Sarpanch			
4.	Village Quack			
5.	Input Dealer			
6.	Kisan Sabha/ Farmers' Club			
7.	Milk Vendor			
8.	Others			
<b>B)Personal Cosmopolite :</b>				
1.	Gram Sewak / VLW / VDO			
2.	Livestock Dev. Officer/ Stockman			
3.	Extension Officer			
4.	Cooperative Official			
5.	Bank Personnel			
6.	Scientist / SMS			
7.	NGO			

### 11) MASS MEDIA EXPOSURE:-

		Regularly(2)	Seldom(1)	Never(0)
1	Newspaper			
2	Radio			
3	Television			
4	Dairy Melas			
5	Cattle show			
6	Magazine, leaflets			

7	Folk media			
8	Documentary / Video films			

**OCCUPATION:** Main:

Subsidiary:

**INDICATORS TO MEASURE THE CHARACTERISTICS OF AN ENTREPRENEUR**

**1. INNOVATIVENESS**

Sl. No	Statements	Yes (1)	No (0)
1	Attending training at BPD was your idea?		
2	Did you further tried to collect relevant information on your own?		
3	Do you always look forward to the new ways of enterprise management?		
4	Do you think that such trainings would be beneficial for your future?		
5	Do you think that you can take advantage of the opportunities provided (courtesy ‘trainings’ being imparted) and apply the same in the practical situations?		
6	Do you think that the commercialization of the products adds to its economic value?		
7.	Have you ever come across any new idea while working in your company?		
8.	Have you ever thought about the role of these training units in entrepreneurship development?		
9.	In order to gain some benefits/advantages vis-à-vis your domain of work, if you are asked/advised to change/modify your present ‘lifestyle’...would you go for it?		
10.	Do you think that investing in research and development is very crucial for any enterprise?		

**2. ACHIEVEMENT MOTIVATION:**

Everybody has desire to achieve the desired things in his life, here are some statements pertaining to desire of excellence to do something well for its own sake rather to gain power or recognition. Please give your response....

A. In accomplishing a task, I like....

- To do it much better than others

- To finish it be for time

B. My desire is to be...

- A average income earner/entrepreneur/businessman
- A successful earner/entrepreneur/businessman

C. I feel my success depends on:

- My hard work in my business
- On my parents and relatives

D. I Like:-

- To earn more profit
- To satisfy my minimum need

E. After 10 years I will be:-

- A well known dairy entrepreneur/businessman
- My status will be same

### 3. DECISION MAKING ABILITY

Sl. No	Decision Criteria	Deciding after consulting others (0)	Deciding after consultation with experts (1)	Self Decision (2)
1	Idea of attending training at BPD/WEL?			
2	If you want to start a new enterprise, how do you decide?			
3	How do you decide about the amendments suggested in the traditional method of dairy products processing is advantageous or not?			
4	If you find it advantageous, how do you decide about its adoption at your own level?			
5	Suppose you want to sell an agricultural land, how do you take the final decision?			
6.	Investment of money in any new enterprise, how do you decide on it?			
7.	During financial crisis, how do you take a final decision to cope up with it?			

8.	Suppose your present service is not economically viable, how do you take the decision to opt for the new one/continue the same?			
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#### 4. RISK ORIENTATION

Sl. No	STATEMENT	A(2)	UD(1)	DA(0)
1	A dairy entrepreneur should take greater risk than average farmer.			
2	A dairy entrepreneur/trainer should try new dairy practices only after successfully used by other dairy entrepreneurs.			
3.	Trying on entirely new practice in dairy enterprise involves risk but it is a worth.			
4.	Dairy enterprise management is full of risk			
5.	Dairy entrepreneur should sustain risk in development of his enterprise.			
6.	Dairy entrepreneur should keep improved breeds instead of local breeds.			

#### 5. SELF CONFIDENCE:-

Sl. No	STATEMENT	Yes(1)	No(0)
1	Do you always feel that you can achieve the things you wish?		
2	Do you care much for what others think of you?		
3	Do you have difficulty in saying the right option at right time?		
4	Do you frequently feel unworthy?		
5	Can you adjust readily to the new situation?		
6	Do you feel hard to keep your mind on task/job?		

7	Do you have enough faith on yourself to make profit in dairy enterprises?		
8	Do you rely on others to carry out all the dairy activities?		

## 6. COSMOPOLITENESS

Sl. No	STATEMENT	Agree (2)	Undecided (1)	Disagree (0)
1	There is need to collect additional information from outside the village for successful dairy entrepreneur			
2	A dairy entrepreneur should keep good contacts with professionals like veterinarian, extension persons etc.			
3	Cattle exhibition, field visit, training on dairy farming helps to gather recent information			
4	A dairy entrepreneur should try to get information on new techniques in dairy management practices from outside of his village by using mass media facilities...			
5	Keeping contact with progressive dairy entrepreneur is useful for managing the dairy enterprise...			

## 7. ECONOMIC MOTIVATION

SI. No	STATEMENT	A(2)	UN(1)	DA(0)
1	You should work towards larger yields and economic profits.			
2	A most successful is the one who makes the most profit.			
3	You should grow crops and produce milk to increase monetary profits in comparison to subsistence farming.			
4.	It is very difficult to make good start unless you are provided with economic assistance.			
5.	You should try any new crop/dairy farming practice which may earn you a more money.			

	<p>Interview Schedule For The Trainers</p>	
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Socio-Personal Profile of the Trainer:

1. Name of the trainer:-

2. Age:-

3. Education:-

4. Designation:-

5. No of trainings attended:-

6. No of trainings conducted:-

7. Mode of information update:-

- Refresher training
- Colleagues
- Textbook
- Journals
- Any other(specify)

8. Job satisfaction

- Satisfied
- Unsatisfied
- Opportunity oriented

**Training domains used during training.**

**1- Milk production and processing domain**

1.) Number of trainings/year:-

- 2.) Duration of each training:-
- 3.) Usually Number of participants:-
- 4.) Number of faculty members involved:-
- 5.) Duration of lecture (min/hrs.):-
- 6.) Duration of practicals:-
- 7.) Provision of field visits: - (yes/no)
- 8.) Any video documentary/at NDRI for exposure to participants:-
- 9.) Any hands on doing (learning by doing):-
- 10.) Feedback mechanism:-

#### Modules of Instruction

- 1.) Lecture
- 2.) Handout
- 3.) Group Discussion
- 4.) Field Visits
- 5.) Practical Exercises
- 6.) Video Films/Documentaries
- 7.) Guest Faculty (Experts Session)
- 8.) Use of Success Stories:-
- 9.) Use of Case Studies:-
- 10.) Use of Simulation Techniques:-

#### **2 - Commercial Dairy Farming domain**

- 1.) Number of trainings/year:-
- 2.) Duration of each training:-
- 3.) Usually Number of participants:-
- 4.) Number of faculty members involved:-

- 5.) Duration of lecture (min/hrs.):-
- 6.) Duration of practicals:-
- 7.) Provision of field visits: - (yes/no)
- 8.) Any video documentary/at NDRI for exposure to participants:-
- 9.) Any hands on doing (learning by doing):-
- 10.) Feedback mechanism:-

#### Modules of Instruction

- 1.) Lecture
- 2.) Handout
- 3.) Group Discussion
- 4.) Field Visits
- 5.) Practical Exercises
- 6.) Video Films/Documentaries
- 7.) Guest Faculty (Experts Session)
- 8.) Use of Success Stories:-
- 9.) Use of Case Studies:-
- 10.) Use of Simulation Techniques:-

### **3. Miscellaneous/ Need Based domains**

**Constraints perceived by the trainers with respect to the training programme:-**

Sl.No	Constraints	
1	Scheduling of training overlaps with the classes and assignments.	
2	Meeting aspirations of candidates from diverse background and varied knowledge level.	
3	Poor response from the input provider companies.	
4	Diverse knowledge level of trainees, difficult to discuss the topics in all aspects.	
5	Lack of proper emphasis on the business potential of technologies.	
6	Lack of sufficient knowledge on present status of dairy industry and its products.	
7	Dealing with participants from different background.	
8	Difficult to comprehend their behavior and understanding level.	
9	Lack of practical knowledge and awareness about the basic terminologies associated with management and processing.	
10	Lack of harmony in the group keeping in view their educational level and profession.	