

Introduction

Block 2

Block 2 in the Course MGSE-004 “Gender Issues in Agriculture, Rural Livelihoods and Natural Resource Management” is titled as “Gender and livestock and Natural Resource Management”. It has five Units. The first three Units in this Block deals with gender and livestock and the last two Units are about Natural Resource Management and Common Property Resource Management. Unit 5 is about the Role of women in livestock. In this Unit the author discussed the Women in Agriculture and their multi dimensional role, Participation of Women in Livestock farming Activities, Role of Women in Dairying activities, Role of Women in rural economy, Invisibility of women in development process, Task in which women’s enroll in livestock production, Need of women’s contribution to family income, Techno economic feasibility of different farming systems, Employment and Labour inputs in livestock keeping, Employment generation through value addition, Dairying for promoting entrepreneurship in rural India, Market potential for value added dairy products, Market potential for value added meat products and Market potential for value added egg products. Unit 6 is Access to resources, services and institutions. In this Unit, the author notably discussed the issues related to access to services, resources and institutions, she listed the National level institutions and its role in empowering women. Unit 7 is titled as Differences in roles and activities. Role of men and women in Livestock is given in this Unit. As we have already discussed the final two units in this Block (Unit 8 and Unit 9) is about Natural Resource Management and CPR in Panchayati Raj Institutions respectively.

PROGRAMME DESIGN COMMITTEE

Prof.Poonam Agarwal, Delhi	Prof, Malashri Lal, Delhi	Prof.M.A. Varghese, Bangalore
Prof. Jaya Indiresan, Delhi	Prof.Harsha Parekh, Mumbai	Prof.Vibhuti Patel, Mumbai
Dr.Reena Ramachandran, Gurgaon	Prof. SudhaRao, Delhi	Prof.Maithreyi Krishnaraj, Mumbai
Prof. Ratna Sudarshan, Delhi	Prof. Parvathy Rajan, Devlali	Dr.Nutan Jain, Jaipur
Dr.Kiran Prasad, Tirupati	Prof. Jayati Ghosh, Delhi	Prof. Rajni Palriwala, Delhi
Prof. Chhaya Datar, Mumbai	Dr. Sheila Vir, Delhi	Prof. Shirin Moosvi, Aligarh
Prof. Poonam Dhawan, Jammu	Dr.Sundari Ramakrishnan, Chennai	Dr. Chandra Iyengar, Mumbai
Prof. Tapti Basu, Kolkata	Prof. Archana Sharma, Guwahati	Prof. VeenaMistry, Vadodara
Prof. Savita Singh, New Delhi	Prof. Annu J Thomas, New Delhi	Dr.Vanishree.J IGNOU, New Delhi
		Dr.G.Uma IGNOU, New Delhi

BLOCK PREPARATION TEAM

	Unit Writers	Unit Transformation
Unit 5	M.Seetha Lakshmi	G.Uma
Unit 6	M.Seetha Lakshmi	G.Uma
Unit 7	M.Seetha Lakshmi	G.Uma
Unit 8	Leena Pujari	G.Uma
Unit 9	V.Raghupathy	G.Uma

PROGRAMME COORDINATORS

Prof. Annu J Thomas
Director and Programme Coordinator
School of Gender and Development Studies
IGNOU
New Delhi

Prof. Savita Singh
Programme Co-coordinator
School of Gender and Development Studies
IGNOU
New Delhi

COURSE CHAIR AND EDITOR

Prof. Krishna Srinath

COURSE COORDINATOR

Dr. G.Uma
Prof. Annu J.Thomas

SOGDS, IGNOU

PRODUCTION

Mr.K.N.Mohan

BLOCK COORDINATOR

Dr.G.Uma
SOGDS, IGNOU

UNIT 5 ROLE OF WOMEN IN LIVESTOCK

Structure

- 5.1 Introduction
- 5.2 Objectives
- 5.3 Women in Agriculture and their multi dimensional role
- 5.4 Participation of Women in Livestock farming Activities
- 5.5 Role of Women in Dairying activities
- 5.6 Role of Women in rural economy
- 5.7 Invisibility of women in development process
- 5.8 Task in which women's enroll in livestock production
- 5.9 Need of women's contribution to family income
- 5.10 Techno economic feasibility of different farming systems
- 5.11 Employment and Labour inputs in livestock keeping
- 5.12 Employment generation through value addition
- 5.13 Dairying for promoting entrepreneurship in rural india
- 5.14 Market potential for value added dairy products
- 5.15 Market potential for value added meat products
- 5.16 Market potential for value added egg products
- 5.17 Summing Up
- 5.18 Glossary
- 5.19 Answers to check your Progress exercises
- 5.20 Reference
- 5.21 Questions for reflection and practice

5.1 INTRODUCTION

Agriculture in India is still a family enterprise where the family participates as a unit and the share of women is half of the human resource in farming. Rural Indian women are extensively involved in agricultural activities. According to 2001 census of India, about 74% of women are

involved in agriculture and allied activities out of a total female working population. However the nature and extent of their involvement differs with the variations in agro production systems. The mode of female participation in agricultural production varies with the landowning status of farm households. Their roles range from managers to landless laborers. In over all farm production, women's average contribution is estimated at 55% to 66% of the total labor with percentages, much higher in certain regions. Mainly rural women are engaged in agricultural activities in three different ways depending on the socio-economic status of their family and regional factors. They are work as:

1. Paid Laborers.
2. Cultivator doing labor on their own land and
3. Managers of certain aspects of agricultural production by way of labor supervision and the participation in post harvest operations.

In reality, women play a significant and crucial role in agricultural development and allied field activities like main crop production, livestock production, horticulture, post harvest operations, agro/ social forestry, fisheries, etc. The nature and extent of women's involvement in agriculture, varies greatly from region to region. It also varies region to region and within a region, their involvement varies with different farming systems, castes, classes and socio – economic status. The social, economic and cultural conditions of the area determine women's participation in home and farm activities. In most parts of the country, women of higher caste and socio economic status are not allowed to participate in on-farm activities.

Even within a region, their involvement varies widely among different ecological sub-zones, farming systems, castes, classes and stages in the family cycle. But regardless of these variations, there is hardly any activity in agricultural production, except ploughing in which women are not actively involved. A study on women in agriculture conducted in India and other developing and under developed countries concludes, women contribute more to agricultural production activities. Women workers are equal in efficiency and performance to male workers in identical roles. In certain roles, women workers are even more efficient than men. In respect to reliability, promptness and punctuality, women have an edge over their male counterparts.

5.2OBJECTIVES

After studying this Unit, you would be able to

- state the participation of women in livestock activities;
- discuss the role of women in dairying; and
- explain the importance of value added products in dairying activities.

5.3 WOMEN IN AGRICULTURE AND THEIR MULTI DIMENSIONAL ROLE

According to Swaminathan (1985), “some historians believe that it was women who first domesticated crop plants and thereby initiated the art and science of farming. While men went out hunting in search of food, women started gathering seeds from the native flora and began cultivating those of interest from the point of view of food, feed, fodder, fibre and fuel.

Women have played and continued to play a key role in the conversion of basic life support systems such as land, water, flora and fauna. They have protected the health of the soil through organic recycling and promoted crop security through the maintenance of varietals diversity and genetic resistance. Therefore, without the total intellectual and physical participation of women, it will not be possible to popularize alternative systems of land management to shifting cultivation, arrest gene and soil erosion, and promote the care of the soil and the health of economic plants and farm animals.”

Multi-dimensional role of women

1. **Agriculture:** Sowing, transplanting, weeding, irrigation, fertilizer application, plant protection, harvesting, winnowing, storing etc.
2. **Domestic:** Cooking, child rearing, water collection, fuel wood gathering, household maintenance etc.
3. **Allied Activities:** Cattle management, fodder collection, milking etc.

Studies on women in agriculture conducted in India and other developing and under developed countries all point to the fact that women contribute far more to agricultural production than has generally been acknowledged. Recognition to their crucial role in agriculture should not obscure the fact that farm women continue to be concerned with their primary functions as wives, mothers and home makers. Traditionally, women had no definite decision-making role in a majority of family affairs because of dominance of male members in the joint family system. The situation now seems to be changing considerably owing to the introduction of new home and farm technologies and disintegration of the joint-family system. But despite all this, the patriarchal system of family life which has been in vogue since time immemorial has relegated women to the background.

5.4 PARTICIPATION OF WOMEN IN LIVESTOCK FARMING ACTIVITIES

Livestock management is a gender activity as both men and women are involved in it. Women's participation in livestock development is significant and varies from region to region according to socioeconomic, agro ecological, ethnic, and religious factors. Women's contribution in agricultural labor force in developed countries is 36.7% while, it is about 43.6% in developing countries. In rural areas women's participation rate in agricultural and livestock management activities is high as compared to men. Rural women participate in all operations related to livestock management. They also assist their husbands in various farm operations in the fields. A rural woman in the Punjab works almost 15 hours a day, spending about 5-6 hours in caring for livestock. They are responsible for 60 to 80% of the feeding and milking of cattle. Livestock management has always been considered to be the sole responsibility of women.

The rural women participate in livestock production activities in livestock care and management. It is widely accepted that most of the critical roles related to livestock farming are played by the women. Women generally contribute more labor inputs in areas of fodder cutting, watering, cleaning of animals and their sheds etc. Milking the animals and milk processing has also been attributed to the women folks. Manure collection, preparation of dung cakes and maintenance of animal sheds are also the exclusive activities of rural women. Managing and herding large stock and other animals and processing livestock products are also considered the sole responsibility of women.

Cleaning of animal sheds, watering of animals, making feed concentrates and feeding of livestock were the activities where their contribution are medium. They also undertake most of the difficult tasks like brooding and breeding, fodder chopping, fodder cutting, and fodder carrying, calf rearing and making animals sheds, marketing of animals produce, milking, marketing of animals, and bathing of animals.

Women participation in stall feeding of animals is 31%, whereas, in milking, milk processing is round about 58% and in preparing dung cakes is 90%. A vast majority (90%) of women is involved in shed cleaning and 85% in collection of farmyard manure. Watering is also performed by 69% of females. Males, however, share the responsibility of taking care of sick animals. It is evident that the women are playing a dominant role in the livestock production and management activities. They are economically active and substantially contribute to many

activities, such as crop farming and livestock keeping, post harvest activities, household management, off-farm and non-farm economic activities.

While the above factors accounting for variations in farm women's work in agriculture are not exhaustive, each of these includes a wide-range of activities in which women are actively involved. Dairying alone, for instance involves a number of activities like: milching cattle; preparing cattle feed; feeding cattle; cleaning cattle and cattle shed; care of sick animals; de-ticking animals; de-worming calves; collecting fodder for animals; taking animals for grazing; storage of dairy products and marketing of dairy products.

As far as animal husbandry concerned, while some studies have been made on women's participation in dairying, poultry, piggery, goatry and the like have received little or no attention of the social scientists. There are only a few studies which throw some light on the nature and extent of women's participation in fisheries. Among other allied enterprises in relation to which little or no work has been done to assess the role of women include apiculture, sericulture and silviculture.

5.5 ROLE OF WOMEN IN DAIRYING ACTIVITIES

The following activities women participate as dairying activities.

Feeding green fodder: Farmer families in many states have realized the importance of growing green fodders particularly berseem, lucern, cowpea, maize, oat, etc. for feeding of their milch stock. They need to be made more conscious that they have to feed this throughout the year and more and more farmers have to adopt this feeding system to earn more income for the family. Crop rotations have been worked out from zone to zone which can be practiced and milk flow can be enhanced at a very fast rate whereas at the same time the cost of milk production can be cut down by reducing the rate of feeding expensive on cent rate mixtures which the farmer has to purchase from the market. The farm women thus need to be educated about the rate of feeding concentrate mixture to avoid losses. Cow yielding eight kg milk would need only one kg concentrate mixture when fed with one half berseem and one half oat fodder. Or green oat fodder of green maize fodder. But if wheat straw is the source, then 4.5 kg concentrate mixture is required to be fed for eight kg milk production.

Mostly, women harvest the fodder and transport it to feed their animals sometimes after chaffing or otherwise as such. This practice is variable from state to state. However, chaffing the

fodders whether green or dry needs to be practiced. Particularly, with rise in literacy percentage in women. They can be made to be practiced. Particularly, with rise in literacy percentage in women. They can be made to realize the importance of this cows so that they can exploit the full milk potential and thus generate more income for family. In fact from management point of view, cow is required to be considered a machine whose function depends upon adequate input to give the same proportion of output , which is milk, after meeting the maintenance requirement.

Producing clean milk: Boiling milk and thereafter its consumption by the family has been evolved by the house-wife as an evolutionary step to protect the family members from certain communicable diseases through milk. But on the other hand, this process destroys certain valuable nutrients required essentially by man. If precautions are taken to produce clean milk with bacterial load. The milk can be pasteurized at lower temperatures and thus can be fed with full nutritive value. washing of udder with warm water and washing of hands before milking which is mostly done by women, cleaning of bucket with detergent and filtering of milk through muslin cloth are some of the practices which can help to produce clean milk. This care costs very little but helps to produce clean milk., improves its keeping quality and is more safe for human consumption. Certain products made out of milk by farmwomen such as khoa paneer , butter, ghee, srikhand and flavored they would also be of good quality , flavor and taste.

Manufacturing Indian milk products: Farm women have no alternative except to manufacture a number of milk products out of surplus milk because only 10% of the milk produced in the country is collected from 5.76 lakh villages spread in an area of 3.29 million km². Thus, 50 % of the total milk is used for productizing certain common milk products which have a good market from area to area. These milk products have longer shelf life, easy to transport be use of less bulk and these a base for preparation of variety of sweets.

Khoa making: Khoa making is an art , required to be learnt by farm women on scientific lines, they can earn about rs 15/- more for every 10 litres of milk by keeping its normal fat content (20%) moisture 30 to 35 % ,flavor and structure . Khoa yield of standard quality from milk is 20 to 22 %. They need to pack it in polyethylene bags duly sealed to avoid losses in weight as well as to prevent contamination .this technique improves the shelf life by about 1 week and middle man can not take the advantage of low weighments. Surplus fat obtained from making khoa i.e. a level more than 20% can be invariably converted into ghee which is again

packed and sold. In case farm women can learn to make sweets, profitability can be further enhanced which may go up even as high as 100%.

Paneer making: Demand for paneer is increasing day by day and its manufacture is being practiced usually by confectioners from milk. Farm women can easily adopt the technique to manufacture paneer just as far khoa to earn more income for the family. Farm women are required to given training for this also on scientific lines such that they can get proper smoothness and with 23% yield from buffalo milk .it should and then sent to market for sale duly weighed. The profit may be again Rs15/- more for every 10 litre milk.

Check Your Progress Exercise 1

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this U nit.

1. List the activities of women in dairying

5.6 ROLE OF WOMEN IN RURAL ECONOMY

Women's participation in and their contribution to the development of the rural sector has been one of the most reflected upon and discriminatorily assessed areas of the developing economy. From the point of view of increasing labor force as well as of involving women in production and service activities, their active participation in the development process cannot be overlooked. Though women constitute about half of the world's population, they constitute 30 per cent of the official labor force, and account for 60 per cent of the working hours, yet receive only 10 per cent of the income and own less than one per cent of the world's property (UN report 1991).

Although women represent a significant part of the labor force in the developing economies of Asia, Latin America and Africa, and involve themselves in the mainstream of development, there is hardly any appreciation and recognition of their extensive contribution. In

the developing countries, even though women are the major producers of food by undertaking most tiring and time consuming works in the process, their contribution is not recognized and quantified through recorded evidence.

The rural women in India constitute nearly 77 per cent of the total female population. They play a significant role in agricultural and allied sectors and also in artisan activities, apart from the household activities. About 79 per cent of the rural women workers are involved in agriculture related pursuits as cultivators and laborers. Farm and home are integral parts in the rural society in India and the farmhouse wife acts as a producer, entrepreneur, worker, consumer and home-maker. In India the rate of work participation by women steadily rose from 14.22 per cent in 1971 to 19.67 per cent in 1981 and to 22.27 per cent in 1991.

5.7 INVISIBILITY OF WOMEN IN DEVELOPMENT PROCESS

The incidence of women's participation in the labor force and their contribution to the total family income are higher in households with lower economic status. The poorest households are most dependent upon women's economic productivity.

Women have a profound and pervasive effect on the well being of their families, communities and local eco-system. Therefore, inequities that are detrimental to them, for example their physical and mental health, income earning ability, education and decision making power, to name just a few, are detrimental to society at large as well as to the environment. These facts have somehow been overlooked by the policy makers in fixing the target group i.e. the male as head of the family for poverty alleviation programmes. They have failed to visualize the strategic role of women in the process of bailing their families out of poverty. But, throughout the world, the rural women have been under-represented in the development process. By and large they have remained "invisible workers".

Because of the low "visibility" of their contributions, they are not regarded as equal partners in the developmental process. To counter this, the United Nations declared the ten-year period ending 1985 the "Decade for Women". Since then women have been given focus in developmental programmes at all levels, and they play a significant role in the development of the economy.

In ascertaining the status of women in the context of rural development, several inter-connected issues are of vital importance. The economic and social aspects of women's status in rural society interact with each other in a rather complex manner. To begin with, there is a need

to assess the demand and supply forces affecting the present economic status of rural women on the basis of specific indicators. These include the extent and nature of their participation in work relating to

1. direct agricultural field operations,
2. preparatory or supportive activities to agriculture production in both peasant household farms and hired labor based farms, and,
3. other lines of activities.

Under the first category, work includes sowing, transplantation, hoeing, weeding, inter-culturing, harvesting and some post-harvesting operations. Under the second category women's work includes home and farm related activities like fetching water, watering horticultural plants, tending cattle, collecting fodder and fuel etc. Under the third category, work includes non-farm work such as fishing, collecting wild fruit and vegetables, selling dairy products etc.

At the dawn of the 21st century, the role of women is increasingly under scrutiny. In India the year 2001 has been declared Women's Empowerment Year. In every society, women play critical roles in rural areas. For example, they perform the bulk of the household subsistence work and shoulder major household responsibilities in farming, food preparation, health care, and, the acquisition and stewardship of natural resources. In many societies women have greater influence than men on rates of population growth and infant and child mortality, health and nutrition, children's education, and, natural resource management.

5.8 TASK IN WHICH WOMEN'S ENROLL IN LIVESTOCK PRODUCTION

1. Fodder cutting
2. Fodder carrying
3. Fodder chopping
4. Feeding of livestock
5. Grazing of animals
6. Making feed concentrate
7. Making animals' sheds
8. Cleaning of animals' sheds
9. Watering of animals
10. Bathing of animals

11. Collection of manure
12. Making dung cakes
13. Storage of dung cakes
14. Milking
15. Milk processing
16. Marketing of animals' produce
17. Marketing of animals
18. Caring of diseased animals
19. Calf rearing
20. Brooding and breeding

5.9 NEED OF WOMEN'S CONTRIBUTION TO FAMILY INCOME

Livestock production is equally important to both landowning and landless families. Milk and milk products play a vital role in the country's agricultural economy. Dairying provides sustenance to millions of farmers, particularly the rural poor. Dairy development fits most appropriately in the developmental programmes to increase rural employment and to promote equitable distribution of income with social justice. In small farm situations, milk and milk products directly help in increasing crop production by making liquid cash available to the farmers for the purchase of essential inputs.

Women's labor inputs into livestock maintenance and dairy production vary over landholding and livestock-holding classes. Generally speaking, women of landless and small and marginal farmer households perform the maximum labor in livestock maintenance, while women of medium farmer households may put the same quantum or less of time into this activity.

Poor households need the economic and labor resources of all their members. Men's incomes are not sufficient for the survival of the household. Development programmes, which increase only men's incomes, are not successful in alleviating poverty and malnutrition and women's lack of access to health care, education and information.

In India, as in many developing countries, gender is linked with poverty. Poor households are forced to adopt short and long term survival strategies, which involve inequitable allocation of resources. While scarce resources are allocated to men, time consuming risks and

responsibilities are more often allocated to women. Income generating activities for women often provide women with a small supplementary income rather than a regular income.

In agriculture, too, women suffer inadequate agricultural support services such as extension and credit. One successful project that links women producers to financial institutions is the women's dairying project of the Dairy Development Federation of Andhra Pradesh, where the project acts as a broker between groups of women members of the all-women dairy cooperatives and financial institutions.

Appropriate strategies for poverty alleviation should take into consideration the gender issues. The inequities that perpetuate and exasperate poverty can be mitigated by increasing the economic value of women through skills training for productive, gainful employment and increased access to credit.

5.10 TECHNO ECONOMIC FEASIBILITY OF DIFFERENT FARMING SYSTEMS

An effort in this direction has been envisaged by way of techno-economic analysis of following potential technologies which may come handy in the above context in various livestock production systems.

Milk production and other production systems: With a view to generate sufficient employment and economic returns, it is essential to integrate milk production system with related crop and animal waste processing systems. Systems analysis of milk production enterprise with 6 crossbred cows raised on one hectare of land at national dairy research institute. Karnal , revealed an employment generation of 578 man days and a profit of Rs. 15.53 per man day labor input. Whereas wheat – rice rotation generated 230 man days employment and a profit of Rs. 17.71 per man day labor input. Though milk production system generated more employment being two stage production systems. Still profit per man day labor input was less (Arora,1990)

Integration of milk production and sericulture: techno-economic analysis of the integration of technological innovation comprising of rearing of crossbred cattle for milk production on mulberry residues. Recycling of animal wastes in biogas system. Rearing of silk worms and processing of cocoons with the help of biogas energy into raw and spun silk by farm women revealed that it is possible to generate 2,975 man days employment per annum per hectare and a profit of Rs 30.11 per man day labor input. Whereas traditional system of Sericulture and milk production generated 675 and 578 man days employment per hectare per annum

and Rs 13.00 and Rs 15.00 profit per man day labor input respectively. Through this suggested integration, 2,300 women day additional employment per hectare is generated in the activities of animal and silk worm rearing and spinning of silk. (Arora,1990)

Integration of milk production with fuel, fodder, food crops and with animal waste processing: techno-economic analysis of the integration of the technological innovations comprising of rearing of crossbred cattle for milk production, recycling of animal waste in biogas system. Processing of milk into indigenous milk products with the help of biogas energy derived from biogas system by farm women and cultivation of fuel, fodder and food crops on the same land revealed that it is possible to generate 853 man days annual employment per hectare and Rs 48.00 profit per man day labour input. Through integration process, 613 women day employment is generated in the activities relating to milk processing, animal waste processing, fuel wood harvesting and animal rearing.

Goat production system: Goats are reared in several types of production systems based on agro-climatic as well as socio-economic conditions. Techno-economic analysis of goat production comprising of rearing of crossbred goats (25 does and one male) based on scientific feeding, management and disease control generated 365 man days employment and Rs 7.075 profit per annum. The activities performed by farm women in this enterprise were cleaning of goat shed, feeding and rearing of kids and marketing of goat products i.e. milk and fiber. (Arora,1990)

Wool production system :Techno-economic analysis of sheep production with scientific breeding, feeding and wool processing revealed that sheep unit comprising of 25 crossbred sheep and one ram generated 240 man days of employment per annum and a profit of Rs 2,383. In this system, Activities performed by women were feeding, shearing and processing of wool. With sufficient knowledge and training in recent innovations in scientific methods of sheep rearing and wool processing. Profit margin could be improved significantly. (Arora,1990)

Poultry production system: Techno-economic analysis of poultry production with technological innovations comprising of rearing of hybrid strains of poultry production with technological innovations comprising of rearing of hybrid strains of poultry for egg production, scientific method of housing, management and disease control revealed that a poultry unit comprising of 1,000 hybrid layers generated 300 man days employment and Rs 11,880 profit in a year (Arora,1990). The activities performed by farmwomen in this enterprise were feeding and

rearing of chicks and collection of eggs. This enterprise can easily be handled by farm women with adequate knowledge and training in poultry production.

Bee keeping system: With intensive agriculture, which has become possible with the onset of green revolution through use of high yielding varieties, fertilizers and irrigation, the crop-mix has undergone considerable change and flowering crops like oilseeds, berseem, Lucerne, etc., are being increasingly grown. Besides, a large variety of fruit trees like guava, citrus, etc. are popular in rural areas, bear copious flowers. These flowers help in honey production and bee keeping is becoming popular.

Rural women can be provided training of 7 to 10 days to learn the skill of maintaining the colonies and extracting the honey scientifically. One can keep as many boxes as can be conveniently managed and women become as skillful as men. An apiary with 10 bee colonies costs around Rs 7,000 which starts yielding after three months. Full production sets in second year and can reach the level of 20 kg of honey per colony per year valued at Rs 5,000 in addition 5 kg of bee-wax and creating of new colonies can bring another Rs 2,500. The net profit comes around Rs 6,000 per year (Arora, 1990).

Rabbit keeping system: This is a new farm enterprise in India which is gaining popularity. Scientific feeding of rabbits and providing them water and cleaning the stalls can be easily accomplished by farm women. Rabbits are kept for meat as well as fur. A unit can be started with 10 females and two males. Initial investment is around Rs 1,500. If grasses are farm grown, concentrates cost about Rs 600 per year. In one year, there will be 40 to 50 young-ones available. Another investment of Rs 1,000 is needed for cages. During first year, meat production will be about 20 kg and from second year about 100 kg one can sell rabbit meat at the rate of Rs 25 per kg. And raw fur hides for Rs 10 each. Beginning with second year, an annual income of Rs 2,500 to Rs 3,000 is possible with a rabbitry of 50 to 60 rabbits, which is an optimum rural unit, highly suitable for farm women. (Arora, 1990)

Check Your Progress Exercise 2

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this Unit.

1. State the reasons for women's active participation in dairying activities

5.11 EMPLOYMENT AND LABOR INPUTS IN LIVESTOCK KEEPING

It is often said that dairying is women's work and the income is women's income, but the picture differs from region to region. Micro level studies on dairying document women's contribution to total labor involved in household dairy production and livestock management from 34 per cent in Madhya Pradesh to 60 per cent in West Bengal, 66 per cent in Haryana and 69 per cent in Himachal Pradesh.

The average livestock keeping households spend nearly 10 hours on the daily maintenance of livestock. Grazing activity takes up an average of six and a half hours. Statistically speaking the 20 million bovines of Andhra Pradesh keep one person busy in 58 per cent of the 10 million rural households which keep livestock. It is important to consider the following intra issues in the context of women in dairy management;

1. Women's work and the household dynamics.
2. Patterns of women's access to livestock and women's labor in maintenance of dairy and livestock production.
3. Structural interventions for women's integration into the modern organized dairy sector.

A study, undertaken in three blocks of Dindigul District with 334 respondents from three different types of management, namely cooperative management, NGO management and individual management, analyzes the role of women as managers of dairying and their participation in, contribution to and involvement in various dairy management activities with a view to formulating suggestions to make this sector profitable. (Seethalakshmi, 2008)

The study reveals that women play a minor role in decision making even though they discharge all functions in feeding, milking etc. In all the three categories of the respondent women play a subordinate role except in the case of women-headed houses. Selection of animal, maintenance of home and handling of funds are largely carried out by men folk and women do not have a place in decision making either in cooperative or NGO. At times educated non-producer women are nominated to the cooperative in view of the quota for women and they play

a passive role in decision making. Training and extension programmes should aim at equipping the women producers with necessary skills for the management of dairy and participation in decision making both at home and in the organization. (Seethalakshmi, 2008)

5.12 EMPLOYMENT GENERATION THROUGH VALUE ADDITION

Historians believe that it was women who first started growing crops and domesticating animals and thereby initiated the art and science of farming. Women have a significant and crucial position in agricultural development and allied fields.

Value addition is linked with the utilization of a crop. For every product and intermediate stage, it is possible to have an enterprise; however, main deciding factor is market for a product. In a country like India where 80% of the people live in rural areas, people still used to home cooked food and dress made by their own tailor demand for necessities of life are still primary processed. They would like to have stone and trash free rice, dhal, whole wheat flour custom milled after washing, drying and hand picking, pure vegetable oil if possible custom milled in their own presence out of home cleaned oilseed.

There is also culture of snack foods like puffed and flaked rice, roasted gram, roasted peanuts, puffed / popped corn an millet; wide range of sweets, salted and sour preparations. Precooked foods like Sattoo are still in use in some part of India. In matter of fruits and vegetables the still prefer fresh but for off season use dehydrated and pickled products are home made as well as purchased. Milk is consumed as whole milk, curd, coagulated (Channa), condensed as Khoa, as Ghee and butter, and numerous sweets made out of milk and milk products. Meat, eggs and fish are used mostly fresh. In case of fish however, dried and smoked fish produced and consumed in certain parts of the country. Some of the value addition activities suitable for women are as follows;

Cleaning and grading: Purity, uniformity in quality and freedom from damage fractions always has premium. Clean and graded products fetch more price. Presence of small amount of inferior product lowers the product appeal and thus lower market. There are winnowers, pre-cleaners for food grains, graders for potato, apple and oranges which can assist women doing cleaning and grading economically without much drudgery.

Dried and Dehydrated Products: Off-season availability of certain fruits and vegetables can be assured by producing dehydrate products. Commonly used dehydrate products ate

chilies, peas, onions okra, potato chips, potato flour, banana chips, cassava chips, dehydrated green mango slices ('Khatai') 'Amchur', mango leather ('Amawat') 'Badi', etc. Process is usually simple involving cleaning, sizing, blanching and drying, and packaging. Equipment required is not too many. For large scale operation, mechanical gadgets for shelling, sizing, blanching and drying are used. For making 'Badi' wet grinders are there.

Scientific storage: There is considerable difference in the price of agricultural commodities during harvest season and off-season. Traditional storages do not hold food grains sagely, especially under unfavorable weather condition. Women can be trained in scientific storage of agricultural products and products.

Primary processing of cereals :Grinding of wheat into whole wheat flour, 'Dalia', 'Suji' and Maida has evolved from manual stone grinders, animal and water wheel driven grinders, electric and engine operated 'chakki' (burr mills) and finally modern roller-mills. The roller flour mills are the sole producers of refined flour for bread all over the world.

In India, however, 80% of the wheat is ground into whole wheat flour ('Atta') used to prepare traditional bread- chapatti or pure paratha etc. Role of dietary fibre now well recognized, 80-85% extraction rate of flour for bakery products is desirable. A mini-grain mill (100 kg/hr. Capacity) has been developed by CFTRI Mysore which produces 'Atta' 'maida' and grits. It also enables production of semi-refined flours from millet to improve the quality of traditional food items. A burr mill is found to be a very versatile grain milling equipment. Production of parboiled rice is another exciting possibility of rural level processing. It involves a simple process of soaking, heating, drying, and milling in does not require high capital input.

Primary processing of pulses: about 75% of the pulses are milled into 'Dhal' – decuticled splits. There are also dishes prepared out of whole legumes for which sound, clean grains are required. Commercial dhal milling involves considerable amount of wastes and by-product. Traditional dhal milling with stone grinder does not yield quality dhal. Now Dhal milling process and equipment have been developed which give quality product with high 'dhal' recovery.

Primary processing of Oilseeds: Preference for fresh and pure vegetable oil as cooking medium, particularly in the rural areas makes oilseed processing another feasible and attractive preposition using power ghanis and expellers. There is also possibility of obtaining food grade cake for use in certain (Tofu), soy-snacks, etc.

Bakery products: bakery products offer an easy, convenient and rather inexpensive means of making foods in hygienically prepared ready-to-eat form. Wide variety of bakery products suit to the purchasing power of all sections of the society. While cakes and pastries may have remained items of elite rusk, buns and cookies have found acceptance among relatively poor households. Bakery industry is labor intensive capable of being set up as small scale and tiny units requiring little investment.

Snack Food: India has tradition of snack foods. A number of snack foods like puffed cereals, flaked, cereals, roasted and, spiced, or fried legumes and nuts puffed gram 'Sattoo', extruded papad fried cereals, a number of traditional sweets are either prepared at home or by small scale entrepreneurs. It is possible to standardize them and improve their hygiene and packaging to suit to the taste and fancy of the consumers.

Low Cost Novelty Food Items: Man by his nature likes trying out something new in addition to what he is used to. Soybeans are widely used for food purposes world over but very little in India. Technology is available to produce protein and fat rich full fat soybean soy-paneer (Tofu), soy, snacks, etc.

Fruit and Vegetables Processing: Low cost technologies are available for producing value added products from fruits and vegetables in the form of juices, squashes, purees, jams, jellies, chips, pickles and chutneys, resins and prunes. The sub-standard products left after grading can be used for processing to a great economic advantage.

Cottage scale Dairy products: Traditional cottage scale dairy technology has been limited to farmers' need to conserve milk in the form of butter ('Makhan') heat clarified butteroil ('Ghee'), buttermilk, fermented milk products (Dahi) 'Chenna' represents yet another set of time old technology developed by sweet makers. These products are made using locally available simple equipment. These products do not involve pumps, centrifuges, plate heat exchangers or vacuum concentrators. Low grade energy mostly heat from fuel wood, coal, and crop residues are used supplemented with manual labor. These processes have point determination. Rural women can manufacture following products for own consumption and sale in the nearby markets:

1. Fluid milks- Boiled, Sweetened, flavoured milk, drinks.
2. Concentrated products – 'Kheer', 'Rabri'
3. Dehydrated product – 'Khoa'

4. fermented products – 'Dahi', 'lassi', 'Shrikhand', Chesse
5. coagulated products – 'Paneer', 'Chenn'
6. Frozen desserts – 'Kulfi'
7. Fat rich products – Butter, Ghee'
8. Confectionaries – 'Burfi', 'Peada', 'Gulabjamum', Rasgulla', etc.

Fish Handling & Marketing: the major role of women in families involved in fishing are sorting, grading, and marketing. Fish are highly perishable. There is need to educate the fisher women about the simple and effective methods of fresh handling, icing and freezing. Lining of bamboo containers with polyethylene lined gunny has proven useful by acting as insulator. Plastic coated wooden boxes used for transportation are found better as these can be cleaned and are less liable to spoilage and bacterial contamination.

Curing and preservation of fish: salting and sun drying of fish is another operation carried out mostly by women. Their fishes like Bombay ducks, ribbon fish, silver bellies, shark fins, fish maws and small sized fish are sundried. It is not easy to sundry a product along fish dryers have been developed. CIFT has developed low cost technologies to improve the quality of cure fish products. By making fish curing more scientific and proper packaging one penetrate even the quality conscious markets of the developed world.

Shrimp processing: The export of frozen shrimps constitutes the bulk of Rs 460 crore marine product export from India. Rural women from the main labor force employed are in processing of shrimps and cuttle fish frozen for exports. The women are mainly involved in the shelling and packaging. The women labor working in these processing plants should be educated and provided facilities for hygienic processing and packaging of these products.

Table 5.1 Changing pattern of food consumption in Rural and Urban areas, based on per capita consumption

Per capita consumption	1987-88		1999-2000	
	Rural	Urban	Rural	Urban
Milk	38.0	51.8	46.1 (+ 18.5)*	62.1(+20%)*
Rice	82.9	64.0	80.2 (-3.3%)*	62.1 (-2.9%)*
Wheat	54.5	53.2	54.1 (-0.7%)*	54.1 (+1.7%)*
Source: Dairy India year book 2007				

Dairy farming provides relatively quick returns for small-scale livestock keepers. It not only provides families with a balanced, nutritious food, but sales of extra milk can play an important role in bolstering household food security and reducing poverty.

FAO projects that demand for milk in the developing world will double by 2030. The vast majority of milk produced in these countries comes from small-scale farmers. Dairy imports to developing countries, in value terms, grew by 43% between 1998 and 2001. These imports could be reduced by the simple expedient of post-harvest loss reduction.

About 50 per cent of the total milk production is consumed by the urban population either as fluid milk or as value added processed milk products. Due to factors such as rapid increase in household income, urbanization and changing lifestyle, consumption patterns are shifting from traditional foods to non-traditional cereals (e.g. wheat based foods) and value added processed and high protein foods such as those derived from animal products. The changing pattern of food consumption in developing countries, including India, is now well documented.

The traditional Indian dairy products have great significance in our country as more than 50% of total milk production is converted into these products. These products not only offer great employment opportunity to our large unskilled and semiskilled population but also help preserve milk solids at room temperature for longer time and provide value addition to milk.

5.13 DAIRYING FOR PROMOTING ENTREPRENEURSHIP IN RURAL INDIA

To ensure employment and livelihood security to the rural masses, agriculture and its allied aspects need much focused attention. Animal husbandry and dairying is an important component of micro-enterprise promotion in rural India. In developing Country like India where still almost one fourth of its gross domestics product (GDP) is obtained from agriculture, the income obtained from livestock rearing and dairying alone contributes to 9% of the GDP.

All round development of this sector demands strong infrastructural support for creating new business opportunities and entrepreneurship in the areas of production, procurement, transportation, processing, value addition and finally marketing of dairy and other livestock products.

The benefit of entrepreneurship development in livestock and dairy sector should ideally be with the dairy farmers and to do so the empowering process have to be in place and human resource development in this sector should be focus of the dairy extension system.

5.14 MARKET POTENTIAL FOR VALUE ADDED DAIRY PRODUCTS

Flavored milk is increasingly becoming popular in the certain market. As consumers are getting more health conscious there is a growing tendency to buy health foods in place of other forms of beverages. Flavored milk thus constitutes a good substitute for carbonated soft beverages and significant value addition is possible either through packaging or through the innovative formulation. For example, flavored milk can be both synthetically flavored as well as can be mixed with real fruit juice and pulp. Although the base is still small, the flavored milk market is said to be increasing by around 27 per cent in value terms. There are host of brands mostly regional are being sold in this segment.

There are number of curd based products now in the market such as lassi, butter milk, chhas etc. which were earlier the domain of the unorganized sectors served through local shops and made to order but now being introduced by both cooperatives dairies and private players. Other traditional products such as paneer, khoa and khoa-based sweets are actually the strong hold of small and unorganized players. Amul has introduced paneer in the market; otherwise all are the local and traditional players. There is lot of opportunity for this segment to go up in the value chain to help the dairy segment to deliver higher value.

Strategic HRD interventions are required keeping in view the share of unorganized sector and the anticipated growth rate. There is a need to develop a training model for the workers of the unorganized sector as well as organized sector which ensures quality production of value added products and facilitates their mobility towards entrepreneurial and formal education system. The competency based qualification framework can provide a mechanism for linking informal and formal systems, whereas the open and distance learning provides a platform for training the stakeholders at their doorstep. Few value added dairy products available in market are;

1. Ready-to-reconstitute Kheer mix
2. Ready-to-reconstitute Rasmalai mix
3. Ready-to-reconstitute Baundi mix

4. Herbal Ghee
5. Khoa Powder
6. Gulabjamun mix powder
7. Rasogolla mix powder
8. Instant kulfi- mix powder
9. Instant kheer mix
10. Long life paneer
11. Ready-to-serve Paneer Curry
12. Extending shelf life of ghee
13. Malted milk food
14. Goat milk cheddar cheese
15. Probiotic Edam Cheese
16. UF Shrikhand
17. Cheddar Cheese Flavour Base (CCFB)
18. Acidophilus Milk
19. Nutritionally improved infant formulation
20. Low lactose powder
21. Low fat spreads
22. Ready-to-reconstitute mushroom whey soup powder
23. Filled milk paneer
24. Lactose

5.15 MARKET POTENTIAL FOR VALUE ADDED MEAT PRODUCTS

India has a livestock population of 470 million, which includes 205 million cattle and 90 million buffaloes. India's livestock population is largest in the world with 50% of world's buffaloes, 20% of cattle and one-sixth of total production, but only 1% of total meat production is converted to value added products. The country produces about 450 million broilers and 30 billion eggs annually. Animals, which are generally used for production of meat, are cattle, buffaloes, sheep and goat, pigs and poultry.

The production of meat and meat products has shown an impressive growth. The total meat production in the country is 4 million tonnes, which includes beef, buffalo meat, mutton, goat meat, pork and poultry meat. However, only about 1% of the total meat is converted into value added products like sausages, ham bacon, luncheon meat, kababs, meatballs etc. The total meat export during 1999-2000 was worth Rs. 845.00 crores consisting mostly of mutton and buffalo meat out of which 70% was contributed by export of buffalo meat.

Indian Council of Medical Research (ICMR) has recommended daily allowance of meat as 34 grams per day, whereas in India the per capita meat consumption is as low as 14 grams per day. According to Anthropological Survey of India study, more than 80% of Indian population is non-vegetarian. A large proportion of non-vegetarians have no religious or social taboo for consumption of Sheep, Goat and Poultry meat.

Till date India has targeted the bulk customers in the export of buffalo meat. A small quantity as branded product in consumer packs has shown their presence in the super markets. Except corned beef, we are not exporting any other product of processed meat category. Whereas there is a demand for ethnic Indian meat product like Kabab, Gushtaba, Akhani, Korma etc., still there is a great potential for European processed meat products like Sausages, Ham, Salami, Burger, Smoked meat etc. If we are able to produce processed meat products, it would add value and help in earning more foreign exchange. Few value added chicken meat based products are listed below;

1. Tenderized spent chicken meat
2. Canned chicken meat
3. Chicken sausage
4. Chicken patties
5. Chicken nuggets
6. Meat balls

5.16 MARKET POTENTIAL FOR VALUE ADDED EGG PRODUCTS

India is the third largest producer of eggs and sixth largest producer of poultry meat in the world, producing over 55 billion eggs and about 2.2 million tonnes of poultry meat in 2007. The most popular products are hard cooked eggs and scrambled eggs. Frozen prepared omelets, quick frozen fried eggs and pickled eggs are also popular in the market.

Liquid eggs can be quick frozen into pellets by liquid nitrogen. The frozen pellets can be cooked instantly and used for making omelets and sandwich fillings. In bakeries frozen pellets need not be thawed and can be added directly to the batter. Albumin is substituted for milk to make egg yogurt. Canned egg salad mix is also available in the market and is very stable. Below provided the list of few value added egg based products;

1. Designer egg
2. Organic egg
3. Liquid egg
4. Frozen egg
5. Convenient foods
6. Apple egg drink
7. Flavored egg
8. Egg powder

5.17 SUMMING UP

Women play multi dimensional role in Agriculture and its allied sectors. With regard to livestock and dairying, they participate in farming activities as well as rearing of animals. Their task is not end here. They make allied products and it contributes for rural economy. This Unit discussed not only their role in animal husbandry, the Unit also explained participation of Women in Livestock farming Activities, Role of Women in Dairying activities, Role of Women in rural economy, Invisibility of women in development process, task in which women's enroll in livestock production, Need of women's contribution to family income, Techno economic feasibility of different farming systems, employment and Labour inputs in livestock keeping, Employment generation through value addition, Dairying for promoting entrepreneurship in rural India, Market potential for value added dairy products, Market potential for value added meat products and Market potential for value added egg products

5.18 GLOSSARY

CFTRI: Central Food Technological Research Institute(CFTRI), Mysore (A constituent laboratory of Council of Scientific and Industrial research, New Delhi) came into existence during 1950 with the great vision of its founders, and a network of inspiring as well as dedicated

scientists who had a fascination to pursue in-depth research and development in the areas of food science and technology.

The Institute has geared up its R&D and impact of the globalization has given very good dividends with a large number of externally funded projects from national and international agencies. The present scenario in the country is very vibrant with rising capital investment in food industry, which is expanding at a rapid pace in urban markets for processed foods, especially for the traditional foods through eco-friendly technologies.

The role of CFTRI has always been on a high pedestal in the areas of human resource development and R&D partnerships cherished through the international linkages with institutions such as the Institute of Food Technologists (USA), UN University (Tokyo), European Economic Commission (Belgium), National Science Foundation (USA) and many more. CFTRI is an ISO 9001:2008 and ISO 14001:2004 organization and NABL accredited for chemical and biological testing of samples.

5.19 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress Exercise 1

1. Feeding green fodder, producing clean milk, Khoa making and Paneer making

Check Your Progress Exercise 2

1. Livestock production is equally important to both landowning and landless families. Milk and milk products play a vital role in the country's agricultural economy. Dairying provides sustenance to millions of farmers, particularly the rural poor. Dairy development fits most appropriately in the developmental programmes to increase rural employment and to promote equitable distribution of income with social justice. In small farm situations, milk and milk products directly help in increasing crop production by making liquid cash available to the farmers for the purchase of essential inputs.

5.20 REFERENCE

Alam, A and Sekhon, K.S, Post harvest technology for farm women: Women in agriculture- Technological perspective, IN C.Prasad and Shri Ram,(eds) Publisher IFWA, Pg: 250-287; 1990.

- Arora, S.P, Appropriate Livestock technologies for farm women: Women in agriculture-Technological perspective, Ed., C.Prasad and Shri Ram, Publisher IFWA, Pg: 307-314; 1990.
- Arshad, S, Muhammad, S and Ashraf, I, Women's Participation in Livestock Farming Activities, *The Journal of Animal & Plant Sciences*, 23(1): 2013, Page: 304-308 ISSN: 1018-7081
- Asif Javed, Saima Sadaf and Muhammad Luqman, Rural Women's Participation in Crop and Livestock Production Activities in Faisalabad-Pakistan, *Journal Of Agriculture and Social Sciences*, 1813-2235/2006/02-3-150-154.
- Bibhu Santosh Behera and Anama Charan Behera, Gender issues: the role of women in agriculture sector in India, *International Journal of Marketing, Financial Services & Management Research*, Vol.2, No. 9, September (2013), ISSN 2277- 3622.
- Chandan Medatwal, Role of Microfinance in Empowerment of Women: A Study of Selected Experiments in Rajasthan, *Pacific Business Review International* Vol 5, Issue 7, January 2013.
- Humaira Akhtar and Bakht Baidar Khan, *Women: Dynamic partners in livestock production*, Review, *Pak. 1. Agri. Sci. Vat.* 37(3-4), 2000.
- Roshan Lal and Ashok Khurana, Gender issues: The role of women in agriculture sector, *Zenith International Journal of Business economics and management research*, Vol.1 Issue1, Oct 2011, ISSN 2249 8826.
- Sethi, Raj Mohini, 1. *Women in Agriculture*. Rawat Publications, Jaipur, Rajasthan, 1991.
- Seethalakshmi, M, *Women in dairy management*, Madurai: Pavai Publication, 2008.

5.21 QUESTIONS FOR REFLECTION AND PRACTICE

1. Discuss the significance of dairying in rural economy
2. Analyse the role of dairying in supplementing family income as well as empowering women.

UNIT 6 ACCESS TO RESOURCES, SERVICES AND INSTITUTIONS

Structure

- 6.1 Introduction
- 6.2 Objectives
- 6.3 Farm women's access to production resources
- 6.4 Farm women's access to land resources
- 6.5 Farm Women's access to credit facilities
- 6.6 Fram Women's access to institution
 - 6.6.1 Role of national dairy development board(NDDB)
 - 6.6.2 Role of dairy co-operatives
 - 6.6.3 Role of BAIF in livestock development
- 6.7 Education, research and training
- 6.8 Extension and farm women
 - 6.8.1 Motivation rural women by supporting indigenous technical knowledge systems
 - 6.8.2 Emphasizing research into appropriate technologies for women in livestock production
 - 6.8.3 Improving market facilities and livestock process to enhance women's involvement
- 6.9 Direct Training and extension services for women involved in livestock production
- 6.10 Summing Up
- 6.11 Glossary
- 6.12 Answers to check your progress exercises
- 6.13 Reference
- 6.14 Questions for reflection and Practice

6.1 INTRODUCTION

Women constitute about half the world's population, account for 60 per cent of the working hours , contribute up to 30 per cent of the official labor force, yet receive only ten per cent of the income and own less than one per cent of the worlds property (anon, 1980). Although, women represent bulk of the labor force especially in the developing countries of Asia, Latin America and Africa, they have not been actively involved in the main stream of development and there is hardly any appreciation and recognition of their extensive contribution, by and large, they have

remained as ``invisible workers``, the problems of integrating women in the development process are now engaging the attention of policy makers as well as Research and Development (R&D) agencies all over the developing countries of the world.

Rural women, besides, performing household work, have been traditionally and predominantly engaged in crop farming, Plantations, animal husbandry and dairying activities in developing economies. Attention to the problems of women in agriculture. Women have not been provided easy access to extension training in appropriate technology, services and inputs and credit facilities, institutions like cooperatives. Extension training centres, research establishments and commercial banks and other credit agencies have generally excluded them.

The modernization and mechanization of agriculture (crop farming) and some of the associated new technologies, is believed to have displaced rural women from many of the traditional activities. Though, many of the farm tasks performed by males are getting mechanized, the women continue to toil in labor intensive jobs like rice transplantation, and post harvest operations. However, there is considerable evidence to show that livestock raising and management related activities still continue predominantly rural women's responsibility and domain. As a matter of fact a large number of livestock related tasks like harvesting and transporting of fodder, chaffing of fodder, feeding of the animals. Cleaning of the cattle sheds, filling of manure pits, preparation of sales of milk products, poultry farming. Wool and other animal fiber production, etc. Are all done by rural women? Therefore, any livestock farming system must give specific attention to women's labor, skills, knowledge, opinions, needs, constraints, and potentials in these areas. This is best done by providing education, extensive training and services, income-earning opportunities and access to credit and cooperative institutions.

In India, the livestock production system currently contributes annually about 46 million tones of milk, 17000 million eggs, 200 million kg of meat from broilers and culled poultry birds, 1.2 million tones of meat from other species of livestock. 41 million kg of wool and 2.89 million tones fish and acts as a substrate to channelize energy of 35,70 million farm women to participate in the production process. This only goes to show the immense importance and potential of the livestock production system in improving the economy of rural women especially in the households of small and marginal farmers and landless agricultural laborers.

The participation of rural women workers in livestock production process varies from state to state and region to region in India. The size of holding i.e., large, medium, small, marginal and landless labor, exercises a commanding influence on work participation of rural women. Illiteracy, socio-economic constraints as well as lack of communication process pertaining to needs based livestock production technologies are some relevant factors contributing to extent of participation of women in livestock production process.

In traditional livestock production systems, Woman has been considered merely a supporting worker, she has been denied the responsibility and fruits of independent decision making and handling of livestock enterprise. With a view to elicit effective participation, farm women should have equal access to technical information and training and it is essential to create awareness among them about their role and they should be duly compensated with economic benefits of independent handling of livestock enterprise.

The above position necessitates creation and development of need based livestock production technologies aimed at increasing the participation of rural women and increasing their economic returns and improving their quality of life.

6.2 OBJECTIVES

After studying this Unit, you would be able to

- discuss the issues related to access to resources, services and institutions; and
- examine the role of various institutions in livestock and dairying among women.

6.3 FARM WOMEN'S ACCESS TO PRODUCTION RESOURCES

The need for studies on the role of gender in technical fields is a priority in India. The lack of detailed understanding of women's role in livestock production has been the common theme throughout the country. It is accepted on all hands that women play crucial roles in production, storage and processing of food in most societies. But as swaminathan (1985) observes, "despite their importance to agricultural production, women face severe handicaps. They are, in fact, the largest group of landless laborers, with little real security in case of break-up of the family through death or divorce; inheritance laws and customs discriminate against them.

Land reforms and settlement programmes usually give sole title and hence the security needed for obtaining production credits to the husband. Agricultural development programmes

are usually planned by men and aimed at men. Mechanization, for example alleviates the burden of tasks that are traditionally men's responsibility leaving women's burdens unrelieved or even increased. The excess burden of work on women ("the double day") of the farm work plus house work also acts as a stimulus to have many children so that they can help out with chores from an early age. Extension workers, almost exclusively male, aim their advice at men and at men's activities and crops. In some regions, this bias may depress production of subsistence food crops (often women's crops) in favor of increased production of cash crops (often women's crops) so that family nutrition suffers".

All agricultural services still have sex bias in favor of men. Women are generally bypassed in development effects. For instance, group discussion meetings are usually held in villages involving mostly men. Further, the venue and timing of such meetings are inconvenient to women and hence even most needy women are not able to attend. So is the case with training. While designing a training programme for women, their dual rather triple burden over child rearing, farm work and household responsibilities is not given consideration. Its venue, timing, duration, content and methodology are not very appropriate for women.

It is mostly held at centres which lack necessary facilities for women and infant child-care facilities are not considered as an essential component of women's training programme. Similarly, information regarding home and farm innovations is often communicated through channels like radio, TV, pamphlets and like which are inaccessible to women. Notwithstanding all this discrimination and unfair deal, women play a vital role in agricultural development and for that matter, in any field. But they have visibly been side-tracked in so far as their contribution to agricultural development and access to development and access to development resources and services are concerned. Technology and credit are among the most crucial inputs for any enterprise. But although women's significant contributions to agricultural development more than justify their being given access to productive resources, their eligibility to receive technology and credit is questioned on the ground that they are not asset holders and do not have the status of a producer.

Moreover, the extension approaches and strategies usually followed for transfer of technology to women are not in keeping with their specific needs and problems. Similarly, the existing loaning procedures are exceedingly cumbersome and prohibitive for women. Thus, they have little or no access to new home and farm technologies and other necessary inputs including,

among others, credit that the present –day modern capital-intensive agriculture calls for. In nutshell, women have access neither to agricultural information and services nor to production assets. They have also no control over their earnings. This does affect their motivation to engage in different types of income-generating activities.

6.4 FARM WOMEN'S ACCESS TO LAND RESOURCES

Land-grabbing, privatization and uncontrolled agricultural expansion are serious issues. These lead to land degradation and pastoral displacement, uncontrolled settlement and marginalization. They are also becoming serious issues in the range areas of Latin America and Asia. Land tenure laws need to be modified to protect the rights of communities. Policies should recognize the dependence of women and poor households on common land, and their hardships when land resources are degraded or scarce.

Women's traditional land rights to both private and common land should be protected and, in the case of allocation of new lands, their equal accessibility to the land ensured. In most countries, women are denied access to land within the modern land tenure system, which seriously affects their ability to increase agricultural production and income. A good strategy is to allocate new land to a group of women, with internal mechanisms in place to ensure equal access to the land by all women in the group.

Some requirements for enhancing women's rights to land are: adequate data and understanding of local land tenure systems; participation of both men and women and community leaders in the process of land allocation and project planning and implementation; provision of supplementary assurances in the loan agreement with the Member Country to ensure borrowers' commitment to support women's land rights; and monitoring of the implementation process.

Although there are various cases where women have been able to benefit from commercialized livestock production, in most cases this is not so. Part of the blame is placed on the fact that the rights of women are not protected in the process. Projects and policies that promote commercialization should be sensitive to the impact on women and should devise rules and procedures for mitigating adverse results. Possible solutions are to work with women's groups or to build in benefits for men in order to prevent them from taking over women's activities.

Government livestock development strategies should be modified to encourage and recognize women's increasing roles in livestock production. Single-objective projects or programmes can never answer to local people's needs. Multiple objectives that recognize women's milk-based strategies, their concerns for household nutrition and income and their need for income-generating activities should become the norm in all livestock development projects in pastoral areas.

Check Your Progress Exercise 1

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this Unit.

1. Why do farm women lack access to resources, services and institutions?

6.5 FARM WOMEN'S ACCESS TO CREDIT FACILITIES

Credit is a must for any enterprise. It is as important for women as for men. Farm women need credit to increase their work productivity and income through expanded investment and to raise the living standard of their families through increased consumption of goods and services. Farm women's significant contribution to agriculture more than justifies their access to institutional credit. The existing policy and procedures of loans, whether in the cooperative or other sectors, do not favor women in their own right to receive loans in their individual capacity as procedures. They also have unequal access to extension services which provide information and technical assistance in obtaining credit. Their credit eligibility is questioned mainly on the ground that they neither hold assets in the form of a house, land or other property. Nor have otherwise control over these economic resources.

Property, particularly individual land titles, is usually in the name of male household heads. This makes women's independent access to credit extremely difficult. Another, major factor that restricts farm women's access to institutional credit is credit institutions do not have programmes that are responsive to the types of work done by farm women. Even if some credit institutions like banks are prepared to help them, the amount of loans offered is too meager to meet the capital needs of farm women. Over and above, the terms of loans as well as the

repayment regulations in respect of timing, frequency and duration are prohibitive. Besides lack of their control over economic resources and non monetized nature of their activities, social customs and illiteracy are other factors responsible for farm women not taking advantage of institutional credit. In view of their significance role in agriculture, their credit worthiness should not be decided on the basis of the assets they hold or what activities they undertake, but on their productivity capacity. It is equally important that the existing highly cumbersome loaning procedures are simplified to suit the convenience of farm women who are mostly illiterate. Cooperatives for women should be set so that they may have easy access to credit, input supplies, marketing and savings. Cooperatives run by women will also provide them incentive to be more productive.

Credit needs to be provided directly to women, cutting through cultural barriers wherever they exist. This will require policy reform, training in literacy and business management for women and changes in credit procedures. Indigenous systems of credit can be utilized, making sure that women are allowed access to the system. Often credit is the major constraint for women, but not necessarily always. Sometimes it has to be accompanied or preceded by the development of technical and managerial skills, or entrepreneurial spirit, and the existence of ongoing entrepreneurial activities or supportive markets. Targeting credit to women requires a 'client' rather than an 'institutional' approach, i.e., women has to be contacted and encouraged individually. Instead of assuming that women will benefit through the same procedures as those used for men, project designers must introduce special procedures to target them.

For example, smaller loans must be allowed, bureaucratic procedures must be simplified and made easy for the illiterate, the terms of repayment must be made more flexible to account for the slower rate of return on livestock, and adequate follow-up should be provided for investment control to ensure that the loan is being properly utilized. Other innovations that can be considered are mobile banking, convenient opening hours to accommodate women's schedules, and appropriate and innovative savings schemes. In addition, mechanisms are needed to reduce risks associated with livestock production. Without such mechanisms, there is a danger of latent indebtedness, where women fail to repay their loans as a result, for example, of animal loss. Such risks can be reduced through flexible procedures, such as: repayment in kind and installments, relevant grace periods and accompanying measures such as insurance, access to markets, adequate training, appropriate technologies in animal husbandry and feed resources and

veterinary services where land for collateral is not available, women should be given access to credit using group collateral or alternative forms of collateral.

Access to credits has shown considerable success in breaking social barriers against credit for women. The group approach remains the most successful strategy in areas where there are major social and cultural constraints affecting women. The group approach also has the advantages of being less costly administratively (at least until such time as the group expands into an institution with fixed capital costs) and of increasing women's confidence in undertaking income-generating activities.

6.6 FARM WOMEN'S ACCESS TO INSTITUTION

The following institutions playing significant role in providing services to the farm women.

6.6.1 Role of National Dairy Development Board (NDDB)

To meet the wide ranging and urgent manpower requirements for the growing dairy industry, the National Dairy Development Board (NDDB) setup in 1979, the institute of Rural Management (IRMA) at Anand. Earlier 1971 in NDDB established Mansingh Institute of training at Mehsana in Gujarat for middle level manpower. NDDB also setup three other Regional Demonstration and Training Institute at Erode, Jalandhar and Siliguri. These centres develop manpower to milk producers Cooperative societies.

With the initiation of `operation flood` in 1970 by NDDB, a very efficient system of collection, processing and marketing of milk has been evolved and replicated with success in different states of India. This is the Anand pattern of dairy cooperatives. The village cooperative and the district unions and state federations. However, are made up of and mainly manned by men. Women have been largely kept out of these formal dairy organizations. However, pilot projects organized in Andhra Pradesh and Gujarat with all women dairy cooperatives have made some interesting relations and given positive insights for bringing rural women into mainstream of dairy development. For an effective contribution in milk production and animal husbandry rural women must have greater access to dairy extension, technology, credit and cooperatives.

The current women's empowerment approach by National Dairy Development Board (NDDB) differs from earlier women in development (WID) perspective, which was popular in the 1970s, in which development programs were focused on women as target audience. Unlike the WID perspective the current approach to women's empowerment by NDDB involves women playing a more active role in their liberation from patriarchal system. Women have also come to

play an increasingly important role in dairy cooperatives as members, as leaders and as employees. The control over the income earned from the daily sale of milk contributes to woman's self esteem. Women participation in the affairs of the cooperatives broadens her knowledge of the world she lives in. She becomes increasingly empowered as a partner in the household with a voice in its decisions.

6.6.2 Role of dairy co-operatives

The basis for starting a cooperative organization is to satisfy the common economic needs of people (members) by self help and through mutual help among themselves. Cooperation is a socio-economic organization of the members for the members and by the members, and is intended for their long term economic welfare. They are acting as the agents of social change and development in the society from traditional to modern life. In order of facilitate this process, cooperatives provide training programmes to the members on aspects related to administration and management. They also act as means for avoiding concentration of wealth in a fewer hands with the motive of service and uplift of living standard of people together with desirable social development.

Dairy cooperatives, in India play a key role in improving the standards of living and socio-economic prosperity of people, as self-governing organizations functioning with an objective of sustainable development of rural areas in India with three tier-structures at State, District and Village levels. Dairy cooperatives have been organized on the basis of 'Anand', a successful model in Gujarat State. The 'Anand' model has been simulated in about 200 Districts by covering over 1,01,000 villages in the country. The special features of "Anand model" are protection of the interest of milk producers through payment of milk on the basis of fat content, shift of milk from rural producers to urban consumers, focus on urban marketing in order to get better price for milk and its products, supply of required inputs to members at their doorsteps and incorporation of women into dairy development network.

The primary milk producer's cooperative societies at the village level have been formed, with the help and guidance of milk producers union of the concerned District, to eliminate the major role and the illegitimate dominance of middlemen in milk production and marketing of milk in rural areas. These cooperatives continuously ensure fair price and regular market for milk and milk products of its members including women. Each

society has its own milk collection centre where members bring their milk every day morning and evening. They also elect the Board of Directors from among themselves through cooperative elections.

The elected Board of Directors will guide the societies in the day today management and administrative activities. A person who is living in a village, having a milch animal and willing to subscribe a share to a milk producers cooperative society can become a member of that dairy cooperative. The primary dairy cooperatives at present have more than 12.4 million farmers as members. While the primary milk producers' cooperative societies protect the interest and concerns of weaker and downtrodden members in the villages, District cooperative milk producers unions at the District level serve the interest of urban consumers by supplying quality milk and milk products with required quantity in time, that too under reasonable rate.



This structure presents the clear depiction of dairy cooperatives in India. The PMPCSs are the foundation and backbone of dairy cooperative movement. At present in India 1,17,575 PMPCSs are functioning for the well-being of rural masses, especially for women, by providing income and employment generation opportunities. The PMPCSs can retain the existing members and attract new members by providing fair price to their milk and milk products. The DMPCUs is an association of PMPCSs at the District level. In India about 170 DMPCUs are collecting milk and milk products from PMPCSs within their Districts. DMPCUs process and supply milk and milk products to the consumers in urban areas. In some of the locations DMPCUs also have their own shops and stalls.

The SCMPF is the State level highest federation of dairy cooperatives. It is a federation of all DMPCUs in the State. As on date, 15 SCMPFs are working and providing financial and technical assistance to DMPCUs within the States and monitoring the whole business transactions through its machineries. The NDCFI is the national level organization for the growth and development of dairy cooperatives in the country and is composed of all SCMPFs in the nation. It is providing necessary assistance to SCMPFs in the whole country in terms of finance, technical, career guidance, services etc. The Government of India is also providing all kinds of support for its long term development.

A cooperative organization is a voluntary and democratic association of human beings, based on equality, equity, and mutuality for the promotion of their common interest as producers or consumers. It directly serves its members' interest by meeting their basic needs and wants. Cooperatives emerged in the country as an alternative to capitalism and industrialism, and have received great momentum through different five year plans of the Central Government in India. They aim at ensuring the ultimate development of people by means of their participation in the business activities and transactions of cooperatives.

In rural India women have traditionally been ignored both as the subject and the object of growth. Nevertheless, they participate in a range of economic activities to generate more income and thereby support their families. Rural women play a pivotal role in agricultural, animal husbandry and its related activities, and about 54 percent of them are involved in these marginal occupations. Though rural women are vulnerable both economically and socially, they share a major responsibility and play a development role in their family. They constitute half of the population of the country, and their active participation in productive actions is not in proportion to their numbers. Under the backdrop, Dairy cooperatives are playing a significant role for the advancement and uplift of rural women. They provide equal opportunity to women in rural areas to participate in day today business transactions and regular production activities.

6.6.3 Role of BAIF in livestock development

BAIF's mission is to create opportunities of gainful self-employment for the rural families, especially disadvantaged sections, ensuring sustainable livelihood, enriched environment, improved quality of life and good human values. This is being achieved through development research, effectively use of local resources, extension of appropriate technologies

and up gradation of skills and capabilities with community participation. BAIF is a non-political, secular and professionally managed organization.

Increasing demand for milk and a large number of low productive bovine population owned by the weaker sections of the society, have been compelling factors for expansion of BAIF's dairy development programme. The programme has been providing doorstep breeding services and other support services to over 5.26 million families spread over 88,272 villages in 12 states namely, Andhra Pradesh, Bihar, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Uttar Pradesh and Uttarakhand states.

Our efforts to transform dairy cattle development programme into a self sustainable model, have made a significant headway. 100 cattle development centres in Eastern parts of Uttar Pradesh and 100 centres in Central Bihar, implemented with the support of SGSY Special Programme of the Government of India, could be successfully completed over a period of seven years while creating a corpus of Rs. 5-6 lakhs per centre to sustain the programme without further financial assistance. This model is now being presented to other donors particularly various State Governments for adoption in the future.

Active involvement of women as service providers and mentors in livestock development, was initiated with the support from the Bill and Melinda Gates Foundation through 158 cattle development centres in Maharashtra, Bihar and Uttar Pradesh states. The project has successfully completed its second year of operation by reaching 49% of the poor through gender integration through 7718 women members and 399 women groups. 1125 dairy interest groups are engaged in adoption of new technologies and organizing collection and marketing of milk.

Based on the successful experience in implementing an eco friendly goat development programme in West Bengal benefitting 10,000 families, the programme has been extended to tribal regions of Rajasthan, Jharkhand, Maharashtra, Karnataka, Orissa and Tripura. Reduction in mortality rate from 40% to 4%, increase in weight of newly born kids and growing stock, have enabled the goat keepers to increase their average annual income from Rs. 2400 to Rs. 8000-10,000.

The focus is on promotion of small flock with genetic improvement, feed supplementation, minor health services such as deworming and vaccination, castration of the kids, and selling goats on weight basis. While 3000 families in Vidarbha region are using Osmanabadi breeds for upgrading their nondescript goats, 4025 families in Udaipur area in

Rajasthan, are using Sirohi breed. The farmers in desert areas of Barmer, have adopted Desi Sindh breed of goat which is hardy. Over 30,000 families in Jharkhand, 2000 families in Tripura and 25,000 families in Orissa, are using Black Bengal breed.

1. Dairy Husbandry: 3 Cows / Buffaloes yielding 8 litres /day, generate an annual income of Rs. 35,000 – 45,000 (Gestation: 3.5 to 4 years).
2. Goat Husbandry: 8 – 10 goats generate an annual income of Rs. 25,000 – 30,000 (Gestation: 12 – 18 months)

Coverage of a Centre

1. 12-15 Villages; 1000-1500 families;
2. 1500-2000 breedable cattle and buffaloes
3. A.I. at doorsteps
4. Conservation of native breeds
5. Close follow up and monitoring
6. Support services: Vaccination, Health care,
7. Advice on Nutrition and Forage production
8. Focus on poor beneficiaries
9. Development of Local Organizations

Outcome

1. No. of Centres: 3749 in 16 states, covering
2. 5.26 million families in 88,000 villages
3. No. of A.I. carried out: 2.5 million/year
4. Cows/Buffaloes in production: 1.0 million
5. Value of Milk produced: Rs.4000 crores / year
6. Programme is Self-Sustainable after initial support for 5-7 years

Table-6.1 State wise Performance of Cattle Development Programme

State	Districts	Centres	Villages(Cum.)	Families(Cum.)	Total (2010-11)
MITTRA Maharashtra	19	285	3533	94054	218701
GRISERV Gujarat	23	219	3500	384568	146177

BIRD-K Karnataka	21	226	3842	466082	180586
RRIDMA Rajasthan	18	422	7920	596646	414643
BIRD-UP Uttar Pradesh	75	1043	38713	2788022	1053583
BIRD-Uttarakhand	12	120	2783	246435	66517
BAIF Bihar	15	252	5403	175000	233826
BIRVA- Jharkhand	24	710	14000	303345	169251
SPESD M.P.	19	120	3663	40452	42506
BIRD- A.P.	11	152	2189	100728	118504
BAIF Orissa	10	100	1920	24964	29120
BAIF Punjab	5	100	806	42815	107038
Total	252	3749	88272	5263111	2780452

Source: BAIF website

Under the South Asia Pro-Poor Livestock Policy Programme (SAPPLPP), as a Partnering Institute for India, BAIF has contributed to over 15 Good Practices for improving the productivity of livestock and community pastures.

Check Your Progress Exercise 2

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this U nit.

1. Write short note on National Dairy Development Board.

6.7 EDUCATION, RESEARCH AND TRAINING

Women's participation in agriculture is a multi-faceted area for research. It is difficult to have a clear understanding and real appreciation of their role and contribution unless all the major facets

are studied in depth following individually as well as a system approach in relation to each other. A critical look into the micro-level studies conducted so far revealed that, by and large, they have covered the following aspects;

1. Participation in agricultural and allied activities.
2. Decision making in farm and home related matters.
3. Impact of new technology on employment and income.
4. Time use pattern.
5. Access to development inputs and services including technology, credit and training.
6. Participation in rural / agricultural development programme.
7. Role expectation and role performance.

While there is much for generation of additional data, both quantitative and qualitative on the above aspects, there are a number of other aspects equally or more important, which have remained almost untouched. Some of these are;

1. Farm women's knowledge about, attitude towards and adoption of women-specific agricultural and allied technologies within and outside the home.
2. Participation of farm women in transfer of modern agricultural technology.
3. Participation of farm women in ongoing rural / agricultural development programmes like IRDP, T & V system and DWCRA.
4. Impact of poverty alleviation and economic assistance programmes on farm women.
5. Participation productivity, problems and priorities of female headed farm families.
6. Specific needs and problems of women cultivators and landless agricultural laborers.
7. Drudgery-reducing farm and household technologies, their merits and demerits.
8. Activity wise quantitative analysis of farm women's participation in non-monetized household activities.
9. Farm women's access to and control over family resources and income in general and their own earning in particular.
10. Profitability, social accessibility and sustainability of women specific promising agricultural and allied innovations.
11. Impact of modernization in agriculture on growth, equity, productivity, drudgery and social status of farm women belonging to different socio-economic strata.
12. Inhibitors and promoters of women's more productive participation in farming systems.

13. Effectiveness of legislative measures in safeguarding the interests of farm women.
14. Participation of the following categories of women labor in farm operations within and outside the home and their specific problems and priorities.
 - ✓ Exchange labor.
 - ✓ Permanent / attached labor.
 - ✓ Migrant labor.

There is no denying the fact that in recent years, there has been a significant increase in knowledge and understanding about the key role of women in agriculture. The data base on their work is gradually improving but we still have very scanty information on many important issues concerning farm women's work. Ours is a big country having highly diverse agro-climatic and socio-cultural zones. It is unconceivable to have a true overall picture of women's participation in agriculture unless a series of cross-cultural comparative studies are made covering all the important aspects of their work and the major variables which determine the nature and extent of their participation and the problems they are faced with. Since new agricultural technology also brings to the fore new problems offering new opportunities and new avenues for research to social scientists, research on farm women has to be a continuous process.

The educational institutions offer training programs on following areas;

1. Selection of the animal
2. Heifer calf rearing
3. Artificial Insemination
4. Frozen semen handling
5. Fodder preservation
6. Feed mixing
7. Milk products preparation
8. Marketing strategies
9. Effluent treatment
10. Effective utilization of whey
11. Poultry rearing
12. Goat rearing
13. Piggery farm
14. Rabbit rearing

6.8 EXTENSION AND FARM WOMEN

The capabilities of farm women and their contribution to agriculture developments can be increased significantly through effective extension support. It is a happy situation that there appears to be lot of wide spread enthusiasm about increasing their capabilities and contribution but to make this a reality, the extension service have to be geared to better serve their specific needs and interest. Extension personnel have to make available the women specific technology to the user in a manner that is accepted and acted upon. Though the role of farm women in agriculture development has been much talked about, very little has so far been done to upgrade their knowledge, attitudes and skills regarding their technology in hand.

In the present era of scientific advancement a steady flow of technical know –how through appropriate extension approaches and media is a must to bridge the gap between the technology available and its adoption by the farm women. It is in this context that extension methods like method demonstration and result demonstration, field day exhibition, campaign, etc exclusively for farm women assume special significance. Likewise there is a need to introduce women specific programs on radio and TV so that they may take due advantage of the same. Normally the social customs and cultural norms don not prevent rural women to watch TV or listen to radio in presence of men.

Considering the village situation, traditional media like puppet show, folk song and drama may prove to be very effective in transfer of technology. Transfer of technology per se may not lead to its adaptation by the users unless needed facilities, services and inputs made available to them. There are many sources from which all this can be available. Lack of awareness is one of the major reasons of non percolation of the benefits of women specific development programmes to the target groups. The extension personnel have to help them to derive the maximum benefits by conducting the programmes through audio visual aids, films, film strips, slide show etc.

Since a large number of farm women are below the poverty line minimum asset generation with them is essential to further multiply the economic gains. For promoting income generating activities among farm women basically through diversification in agriculture and agro based industries corrective work and cooperative marketing need to be promoted. Farm women will gain strength by forming viable associations like *Mahila Mandals*. This should also be a

source of leadership development among them. Such leaders should further be trained to serve as change agents in their respective communities.

The farmers (males) should provide opportunities to farm women for more interaction and contacts with outside agencies and groups. The women should get a lot of latitude and freedom in the decision making process in their families especially in the context of adoption of new technologies for improving production and productivity. For creating such environment, some of the old conservative cultural values, social customs and systems and taboos must give way to modern values and working milieu.

6.8.1 Motivating rural women by supporting indigenous technical knowledge systems

Women's indigenous technical knowledge should be used as a vehicle for promoting participatory development, and for enhancing communication between development workers and local people. Women's livestock production should focus on: animal health and nutrition, animal husbandry, feed production and management, water management and animal reproduction.

6.8.2 Emphasizing research into appropriate technologies for women in livestock production

Client-oriented research is needed in developing appropriate technologies for women in livestock production in order to increase production and incomes. Such research should take into account women's roles and responsibilities, as well as their workload. In addition, complementary work needs to be carried out to reduce burdensome chores such as water and fuel wood collection and lessen women's overall burden. Any time and energy-saving measures could lead to additional benefits, such as allowing women to take up income-generating activities in the livestock subsector. This is especially relevant where male migration causes labor shortages and increased workloads for women. Several issues should be considered in designing appropriate technologies for livestock production:

1. their implications for women's labor requirements and workloads;
2. their suitability in terms of consumption preferences;
3. their implications in terms of women's control over the means of production;
4. their expansion and use of women's indigenous knowledge;
5. the participation of women in their trials; and
6. the importance of incorporating women's physical, social and cultural assets when designing research activities.

Technology is normally directed at tasks where there is the most profit, e.g., large and highly specialized animal production units. But in these enterprises, women are generally nothing more than underpaid laborers. Appropriate technologies must be made to help women increase their own productivity at the small and micro level. Particular attention should be paid to improving the production of goats, milk and minor livestock (rodents, rabbits, bees, etc.) and other lesser-known animals traditionally used in many parts of the world. Research needs to focus on how to raise these species in captivity. Appropriate technology should focus on individual and groups of women with a low dependence on external inputs.

6.8.3 Improving market facilities and livestock prices to enhance women's involvement

In many rural areas, market facilities are inadequate, and women often have little access to the information, equipment, auctions, etc. of regional or even national markets. Market facilities that should be improved in most cases are roads, marketplaces, tools and equipment, information networks, trees or structures for shade, clean water, etc. Market equipment given through credit might be a useful way to enhance women's access to markets. This equipment includes trays, scales, donkey carts, containers (e.g., for milk) and cool boxes to help preserve milk products. In addition, livestock and livestock produce prices are often low compared with those of other produce, which acts as a disincentive to improve marketing facilities.

6.9 DIRECT TRAINING AND EXTENSION SERVICES FOR WOMEN INVOLVED IN LIVESTOCK PRODUCTION

More training and extension efforts need to be directed at women through training in literacy, business management and appropriate technologies for, in particular, small stock and minor animal production. The four main strategies for communicating new skills and technology to women:

1. extension;
2. basic education and literacy;
3. community-based vocational training; and
4. communication techniques for project-based activities.

Basic education and literacy are useful, but the pay-off in terms of time and effort invested may only occur in the very long term. In addition, women often do not have a chance to use the information earned through literacy training or basic education on a day-to-day basis. Success is greater if education focuses on functional literacy and managerial and/or numeracy

skills directly related to agricultural production (including accounting and bookkeeping), and serves both immediate and long-term purposes. Enhancing communication techniques for project activities is another useful approach, which needs to be accompanied by extension and vocational training. Pastoral women should be trained in their villages or transhumant camps, since they are often too busy, or not allowed, to leave their homesteads. Mobile extension and training services have had exemplary success in Asia and Africa and could be extended elsewhere.

In the long run, there should be more training of women extension agents. However, in the short run, existing agents (both men and women) should be trained in gender analysis and gender-techno issues. Professional women need to be encouraged to join fields related to livestock production, especially by providing more employment opportunities for women in those fields.

6.10 SUMMING UP

Livestock enterprises with appropriate production technologies offer immense potential for socio-economic transformation of rural women. However, dearth of improved breeds, poor genetic potential of existing stocks, high cost of investment and production inputs, improperly organized marketing of livestock products, inadequate credit facilities and lack of institutional support are exercising a constraining influence in the development of livestock. Provision of appropriate livestock technology, inputs and services training and extension education, organized marketing and credit and participation in cooperative institutions will result in raising the productivity, employment and income potential of rural farm women and in improving their socio- economic status and quality of life. Special attention is required to be given to improving existing skills of rural women through well planned and monitored training programmes.

6.11 GLOSSARY

Co-operatives: A cooperative ("coop") or co-operative ("co-op") is an autonomous association of persons who voluntarily cooperate for their mutual social, economic, and cultural benefit. Cooperatives include non-profit community organizations and businesses that are owned and managed by the people who use its services (a consumer cooperative) or by the people who work there (a worker cooperative) or by the people who live there (a housing cooperative), hybrids such as worker cooperatives that are also consumer cooperatives or credit unions, multi-

stakeholder cooperatives such as those that bring together civil society and local actors to deliver community needs, and second and third tier cooperatives whose members are other cooperatives.

6.12 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

1. Land-grabbing, privatization and uncontrolled agricultural expansion are serious issues. These lead to land degradation and pastoral displacement, uncontrolled settlement and marginalization. In most countries, women are denied access to land within the modern land tenure system, which seriously affects their ability to increase agricultural production and income. A good strategy is to allocate new land to a group of women, with internal mechanisms in place to ensure equal access to the land by all women in the group. Although there are various cases where women have been able to benefit from commercialized livestock production, in most cases this is not so. Part of the blame is placed on the fact that the rights of women are not protected in the process. Projects and policies that promote commercialization should be sensitive to the impact on women and should devise rules and procedures for mitigating adverse results. Possible solutions are to work with women's groups or to build in benefits for men in order to prevent them from taking over women's activities. Government livestock development strategies should be modified to encourage and recognize women's increasing roles in livestock production. Single-objective projects or programmes can never answer to local people's needs. Multiple objectives that recognize women's milk-based strategies, their concerns for household nutrition and income and their need for income-generating activities should become the norm in all livestock development projects in pastoral areas.

Check Your Progress Exercise 2

1. To meet the wide ranging and urgent manpower requirements for the growing dairy industry, the National Dairy Development Board (NDDB) setup in 1979, the institute of Rural Management (IRMA) at Anand. Earlier 1971 in NDDB established Mansingh Institute of training at Mehsana in Gujarat for middle level manpower. NDDB also setup three other Regional Demonstration and Training Institute at Erode, Jalandhar and Siliguri. These centres develop manpower to milk producers Cooperative societies. With the initiation of `operation flood` in 1970 by NDDB, a very efficient system of collection,

processing and marketing of milk has been evolved and replicated with success in different states of India.

6.13 REFERENCE

Anne F. Stenhammer, *Rural women agriculture, forests and employment*, UN Women, www.unwomensouthasia.org

Asif Javed, Saima Sadaf and Muhammad Luqman, *Rural Women's Participation in Crop and Livestock Production Activities in Faisalabad-Pakistan*, Journal Of Agriculture and Social Sciences, 1813-2235/2006/02-3-150-154.

S.P.Arora, Appropriate Livestock technologies for farm women: Women in agriculture-Technological perspective, Ed., C.Prasad and Shri Ram, Publisher IFWA, Pg: 307-314; 1990.

Humaira Akhtar and Bakht Baidar Khan, *Women: Dynamic partners in livestock production*, Review, Pak. 1. Agri. Sci. Vat. 37(3-4), 2000.

Prasad, C, Singh, R.P and Krishnan, K.S, Review of research studies on women in agriculture in India- Implications for research and extension, ICAR, 1988.

Sethi, Raj Mohini, *Women in Agriculture*. Rawat Publications, Jaipur, Rajasthan, 1991.

Seethalakshmi, M, Women in dairy management, Pavai Publication, 2008.

6.14 QUESTIONS FOR REFLECTION AND PRACTICE

1. Discuss the role of various institutions in providing services to farm women for dairying activities?
2. Explain the importance of Extension in empowering women in livestock and dairying.

UNIT 7 DIFFERENCES IN ROLES AND ACTIVITIES

Structure

- 7.1 Introduction
- 7.2 Objectives
- 7.3 Women in livestock keeping and dairying
- 7.4 Women as managers of farm and home
- 7.5 Participation of men and women in livestock and dairy activities
- 7.6 Decision making behavior of women
- 7.7 Decision making behavior of women in livestock management
- 7.8 Women Empowerment
 - 7.8.1 Changes in Women's mobility and
 - 7.8.2 Changes in women's labour patterns
 - 7.8.3 Changes in access to and control over resources
 - 7.8.4 Changes in intra-household decision making
- 7.9 constraints faced by farm women
- 7.10 Development of training modules
- 7.11 Summing Up
- 7.12 Glossary
- 7.13 Answers to check your progress exercises
- 7.14 References
- 7.15 Questions for reflection and practice

7.1 INTRODUCTION

Gender discrimination in the matters of food, nutrition, education and health, compulsory responsibilities of domestic affairs, limited mobility and lower wages as compared to male workers, lack of economic independence and support and lack of confidence due to customs and family pressure are the most common hurdles for women. Gender discrimination in agriculture and livestock in particular on large farms is accentuated due to social stratification and

involvement in other respectable work such as education and indoor household work. Despite such variations, women's participation in animal husbandry, since ancient times, has been well recognized.

The shift in agriculture from subsistence production to commercial production has meant that the role of women in agriculture has changed and many of the traditional jobs that women were once involved in, such as the post harvest processing of grains, are today being done by machines. Urban industrialization has meant that men migrate to cities in search of jobs, leaving women to manage homes and farms in the villages. This has resulted in increased work pressures and work responsibilities for women.

Decisions in matters of food and clothing more or less have an equal participation rate between males and females. But decision regarding savings and investments and purchase of household assets is taken by males i.e. 83.5 per cent and 81.3 per cent respectively. As the male members control the finance, this creates an adverse impact on women's access to household assets and other household activities.

7.2 OBJECTIVES

After studying this Unit, you would be able to

- examine the role of men and women in livestock and dairying;
- explain the significance of training in empowering farm women; and
- list the constraints faced by farm women.

7.3 WOMEN IN LIVESTOCK KEEPING AND DAIRYING

Historians believe that it was women who first started growing crops and domesticating animals and thereby initiated the art and science of farming. Women have played and continue to play a key role in the conservation of basic life support systems such as land, water, food and shelter. They occupy a significant and crucial position in agricultural development and allied fields.

Rural women are dependents and peripheral to the developmental process. Contrary to the myth of female dependency the fact remains that today livestock management has increasingly become a female activity. Rural India is witnessing an intriguing process described as “feminization of livestock sector”.

It is often said that dairying is women's work and the income is women's income, but the picture differs from region to region. Micro level studies on dairying document women's contribution to total labor involved in household dairy production and livestock management from 34 per cent in Madhya Pradesh to 60 per cent in West Bengal, 66 per cent in Haryana and 69 per cent in Himachal Pradesh.

The average livestock keeping households spend nearly 10 hours on the daily maintenance of livestock. Grazing activity takes up an average of six and a half hours. Statistically speaking the 20 million bovines of Andhra Pradesh keep one person busy in 58 per cent of the 10 million rural households which keep livestock.

It is important to consider the following intra issues in the context of women in dairy management;

1. women's work and the household dynamics.
2. patterns of women's access to livestock and women's labor in maintenance of dairy and livestock production.
3. structural interventions for women's integration into the modern organized dairy sector.

7.4 WOMEN AS MANAGERS OF FARM AND HOME

Webster's Dictionary defines management as handling the institution, be it a farm, industry or home with proper skill in manipulating resources. The process of management will not change but the rationale and intelligent method of dealing may change from person to person. Effective management strives to get maximum benefit from resources. If wise decisions are made and the resources are used properly the objectives can be realized.

Women are predominantly the managers of farm and allied activities. They organize, coordinate and participate in the management of all the activities of home, farm and allied activities. In promoting production of dairy industry women are involved in managing, organizing and coordinating the activities like calf rearing, fodder collection, feeding, watering, cattle shed cleaning, washing the animal, grazing the animal, taking the animal for breeding and treatment, milking, product making, storing and marketing of milk and milk products, health care management and attending training programmes related to dairying.

Among large landholders and, to some extent, among medium landholders the contribution of women is lower than would be expected on the basis of number of milch animals kept. Here women are likely to be more involved in the management of labor than in labor itself. The respective shares of women, men and children highlight the importance of the labor contribution of women in livestock management. Data shows that women from small farms are most heavily involved in livestock work followed by those from landless and large farm families.

Millions of poor rural women in India work hard in dairying. It is important to explore how millions of rural women can be brought into the mainstream of dairy development with access to knowledge of modern dairying and full employment at household level. The Operation Flood programme based on the Anand pattern of cooperative dairying recognizes that,

- dairying at household level is largely the domain of women,
- the products and income from dairying can be controlled by women, and,
- dairying can be practiced on a small scale.

7.5 PARTICIPATION OF MEN AND WOMEN IN LIVESTOCK AND DAIRY ACTIVITIES

There are many correlates of women's differential participations in agriculture. Their participation varies from one region to another depending on agro-climatic and socio-cultural variations. More explicitly, it varies greatly between, for instance, hilly and plain, irrigated and dry land, high precipitation, arid and semi-arid, temperate and tropical and tribal and non-tribal regions. Even within a region, there are marked variations in women's participation in

agriculture and other related enterprises. There are a multitude of factors which are responsible for these variations. Some of the major ones are as follows:

1. Diversity of crops.
2. Cropping patterns.
3. Cropping intensity.
4. Cropping seasons.
5. Land ownership.
6. Irrigation facilities.
7. Workload in the household.
8. Availability of male labor.
9. Employment avenues.
10. Distance from the residence to the crop field / plots.
11. Distance from the village to the market.
12. Socio-economic status of the family.
13. Castes / tribes.
14. Social customs.
15. Cultural norms.

So far as crops are concerned, women's participation varies greatly between food and non-food, subsistence and commercial, fruit and vegetable, fodder and fibre, fuel and forestry, short and long-duration and cultivated and non-cultivated crops. The magnitude of women's participation in agriculture also depends on what enterprises related to agriculture, other than crop enterprises, they are involved in. included among these are the following;

1. Animal husbandry enterprises
 - a. Dairying
 - b. Poultry
 - c. Piggery
 - d. Goatary
 - e. Duckery
 - f. Sheep rearing
 - g. Rabbit rearing
 - h. Quail rearing
2. Fishery enterprises
 - a. Inland
 - b. Marine
3. Other agro based enterprises
 - a. Sericulture
 - b. Silviculture
 - c. Apiculture

While the above factors accounting for variations in farm women's work in agriculture are not exhaustive, each of these includes a wide-range of activities in which women are actively involved. Dairying alone, for instance involves a number of activities like: milching cattle; preparing cattle feed; feeding cattle; cleaning cattle and cattle shed; care of sick animals; de-

ticking animals; de-worming calves; collecting fodder for animals; taking animals for grazing; storage of dairy products and marketing of dairy products.

So far as animal husbandry concerned, while some studies have been made on women's participation in dairying, poultry, piggery, goatary and the like have received little or no attention of the social scientists. There are only a few studies which throw some light on the nature and extent of women's participation in fisheries. Among other allied enterprises in relation to which little or no work has been done to assess the role of women include apiculture, sericulture and silviculture.

Table 7.1 Men and women involved in livestock and dairy activities

Activities	Women	Men
Dairy Farm	Taking animal to grazing	Protecting animal against external parasite
	Chaffing of fodder	Milking
	Washing of cattle	Mating / Insemination
	Bringing the fodder from the field	Medical care
	Preparation of feed for animals	Transportation
	Offering feed for animals	Product distribution
	Offering water for animals	Product Marketing and sales
	Cleaning of shed	
	Product making	
	Milking	
	Chaffing of fodder	
Ovine Farm	Bringing the fodder from the field	Protecting animal against external parasite
	Preparation of feed mix	Slaughtering of animals
	Feeding	Mating / Insemination
	Cleaning animal	Medical care
	Watering	Transportation
	Cleaning of shed	Product distribution
	Product development	Product Marketing and sales
	Chaffing of fodder	
Swine Farm	Bringing the fodder from the field	Protecting animal against external parasite
	Preparation of feed mix	Slaughtering of animals
	Feeding	Mating / Insemination
	Cleaning animal	Medical care
	Watering	Transportation
	Cleaning of shed	Product distribution
	Product development	Product Marketing and sales
Poultry Farm	Feed mix preparation	Housing system establishment
	Feeding the birds	Protecting animal against external parasite
	Watering the birds	Slaughtering of birds
	Cleaning farm premise	Medical care
	Product development	Transportation

		Product distribution
		Product Marketing and sales

Check Your Progress Exercise 1

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this U nit.

1. List few activities women in livestock and dairying

7.6 DECISION MAKING BEHAVIOR OF WOMEN

Homestead operations generally include maintenance and care of farm animals and birds, tending to kitchen garden, upkeep of farm implements and storage of grains. In these women's participation in decision making as well as carrying out physical tasks were very high in all the states. Women played key role in decision making related to feeding of roughages to animals, cleaning and disinfecting of sheds, bathing of animals, supplying drinking water to them, isolating and attending to sick calves and adult animals, mulching of cows and buffaloes, feeding of birds and egg collection. However, men played key role in decision making relating to artificial insemination or natural servicing of cows and buffaloes, arranging medical care of animals including vaccination and deworming, feeding balanced ration through inclusion of concentrates, minerals and vitamins and disposal and replacement of animals.

Decision making is a rational cognitive process, where in a choice is made out of several alternatives. The assumption is that the individual is capable of ranking alternatives in a rational manner and choosing appropriately. This definition is associated with "Normative decision making theory" (Werner Croeber-Riel, Social Science Encyclopedia). Another analytical approach to decision making rests on the premise that decision making is concerned with behavior involved in making a choice. The behavioral decision making theory defines decision making as one concerned with the behavior involved in making a choice even if such behavior is spontaneous, impulsive or habitual. Both cognitive and behavioral approach to decision making emphasize the role of the individual in making a choice.

Planned desirable change in the rural sector is sought to be achieved through development programmes. The success of such change largely depends upon rational decision making by the rural families. Unless the decision making pattern of rural families, i.e who takes most of the decisions and whether decisions are taken at individual level or collectively, is known, the actual objective of any rural development programme may not be realized. Even at the individual level, whether the decision is taken by the female or the male is crucial.

7.7 DECISION MAKING BEHAVIOR OF WOMEN IN LIVESTOCK MANAGEMENT

Women alone or together with men also participate in most of the decisions related to livestock management. Women do not enjoy complete legal equality with men. The level of women participation in decision-making process not only varies from region to region but also from one activity to another. They have no or very little power to take decisions due to many reasons like lack of education, lack of mobility, lack of control over resources, low level of awareness of their civic/ human rights, lack of credit facilities from the Government etc.

Table 2 –Decision making in agriculture activities

Decision making in agriculture activities			
Decision making items	Men	Women	Men and Women
Purchase of fertilizer	90.2	2.9	6.8
Purchase of animals	93.1	-	6.8
Purchase of agricultural equipments	92.1	1.9	5.8
Changing of crops	96.0	-	3.9
Selling of crops / cereals / Vegetables	83.9	10.7	5.3
Source: Bala (2003)			

Women's role in agricultural operations, animal husbandry and other economically productive activities is very significant. They contribute about 60-70 percent of the labor required for these activities thus playing a pivotal role in sustaining economy. The decision making process is an important segment of every household because it makes implementation of a plan or programme quite easy. In rural areas of the country, both husband and wife are jointly responsible for making decisions on matters like family obligations, specific housing charges and purchase of household articles.

However, women's suggestions are not given due consideration in the decisions pertaining to agricultural sector and important family matters. It is because the majorities of women is illiterate, have little time to know about the latest techniques of framing and restricted mobility due to several cultural taboos. In an interview with female respondents, it was noticed that male members only sought their consent whereas their suggestions/objections were not taken into account. Thus it was evident that women had to play second fiddle to men in decision-making. Another study conducted in Haryana, revealed that farm women did not decide independently about any farm operation but participated in almost all the decisions and dominated only decisions more related to home sphere i.e. storage of farm produce, purchase/sale of animal and credit.

Table 3 –Decision making pattern in rural families

Decision making in agriculture activities (percentage)			
Decision making items	Men	Women	Men and Women
Adoption of HYVs	83	-	17
Use of fertilizer / plant protection measures	80	-	20
Purchase of farm machinery	72	-	28

Purchase and sale of animal	21	-	64
Sale of milk and milk products	11	-	78
Procurement of credit	50	-	50
Marketing farm produce	32	6	62
Investment of added profit	26	7	67
Source: Bala (2003)			

Generally, women have less access to information about technology by virtue of their inferior educational status and relative isolation from public life. Thus, there is a hesitation to come out and interact. At times, even the suggestions of knowledgeable rural women are ignored or are not taken seriously because men consider it disgraceful to accept the decision of women. This is because traditionally men have been major lawmakers of society. Many policies and decisions neglect women and undermine their abilities and roles. The undesired restrictions imposed by elderly people in the society on their daughters and daughters-in-law should be relaxed to facilitate their mobility in order to have easy access to the outer world. Most importantly, the women should have a penchant for self-empowerment through enhancing their knowledge and skills. Empowerment without any change in men's attitude or without their willingness will only aggravate family problems, increasing dissatisfaction and ensuring that women will continue to be at the receiving end.

Government policies should be framed to provide legal support and instill confidence in women. Programmes should be developed exclusively for women; to build leadership skills for managing agricultural community based development activities. Access of technology, inputs and credit has to be ensured predominantly through women extension workers. They should be trained in farm management skills and made capable of taking even complex decisions like shifting from subsistence farming to diversified agriculture, with stand competition from market forces improvement in work or farm efficiency etc. The extent of participation in the decision-making activities in house hold and agriculture related and other socio-culture affairs reflects the status of women in the family as well as society.

7.8 WOMEN EMPOWERMENT

In traditional societies, even more than elsewhere, women's empowerment does not occur easily or overnight. In the India case described, there was evidence of such change beginning, to which the project had apparently contributed. It was most noticeable among certain types of women. Perhaps one of the most important emerging lessons is that women's groups themselves, in their social aspects, play a role in such empowerment. This argues for placing emphasis on sustaining groups beyond the life of the project, which indeed was done in this instance. The project evaluation also recommended that communication support (films, radio broadcasts and so on, with sensitization and training content) be used to speed up the empowerment process. Four of the main processes that could lead to women's empowerment, as defined by the IFAD evaluation, were:

1. changes in women's mobility and social interaction;
2. changes in women's labor patterns;

3. changes in women's access to and control over resources; and
4. changes in women's control over decision-making.

7.8.1 Changes in women's mobility and interaction

Women had become more mobile and begun to have new interactions with a range of officials. There is even a growing willingness on the part of group members to approach the Panchayats and Collectors with petitions or grievances. This change is most likely to occur among women group members when:

1. the women involved were heads of households;
2. the women involved had participated in training programmes;
3. their group members had accessed a bank loan;
4. their group had undertaken community action initiatives; or
5. their group had been organized into a federation and encouraged to participate in special events (such as Women's Day, Rural Women's Day)

7.8.2 Changes in women's labour patterns

The changes in women's labor patterns were mixed, and not as positive as along other dimensions. There was little indication that women's control over their labor had undergone a marked change, and the evaluation noted that many women may simply have gone from undertaking paid work outside the home to becoming unpaid family laborers (in male-managed enterprises). At least self-employment allows women the possibility to have better working conditions, save on travel time, and be able to more effectively combine reproductive and productive roles.

7.8.3 Changes in access to and control over resources

Women's play a key role in promoting changes in collective access to resources. Recently studies have been conducted to evaluate women group members' access to non-loan-related resources and benefits, and particularly to common resources. It seems that a number of the groups undertook activities that would give their communities better infrastructure or services, for instance in water supply, child-care facilities, health care services and improved roads.

7.8.4 Changes in intra-household decision-making

Studies conclude that there seemed to be a slight improvement in women's involvement in household decision-making in male-headed households, on such issues as credit, the disposal of household assets, children's education, and family health care. However, the traditional gender-based divisions persist in intra-household decision-making.

Women basically decide on food preparation, and men make the financial decisions. But group members had become more aware of their property and political rights (which was part of group training). As in the case of mobility and social interaction, the evaluation again found greater improvements among women heads of households, older women, and more educated women.

Dairy farming has been the responsibility of women in rural areas. Dairying as an economic activity is particularly significant for rural women. It provides them an opportunity to be economically empowered. Empowerment of women relates to greater access to knowledge and resources, greater autonomy in decision making to enable them to plan their lives or to have greater control over the shackles imposed on them by custom, belief and practice.

A measure of empowerment among women dairy farmers can be developed in terms of the following:

1. Ownership of the animal by the women rather than by her husband
2. Membership in the cooperative society
3. Control over milk sales payment
4. Decision about animal purchase, artificial insemination and vaccination
5. Membership in management committee in case of institutional setup
6. Decision about cultivation of fodder in case of land owned.

7.9 CONSTRAINTS FACED BY FARM WOMEN

The farm women involved in livestock enterprises are encountered with numerous constraints in their day-to-day affairs. The important constraints are listed below;

1. High cost of animals, feed and Medicine
2. Inadequate/ non-availability of credit
3. Lack of transport facilities
4. Lack of storage facilities
5. Non-existence of regulated market
6. Exploitation of middle men
7. Fluctuating price
8. Lack of veterinary aid
9. Lack of infrastructure facilities
10. Lack of technical guidance
11. Non-availability of processing units
12. Lack of proper training facilities
13. Non-availability of labor
14. Illiteracy
15. Family situation

The high cost of animals, feed and medicine, inadequate/non-availability of credit, lack of transport facilities, lack of storage facilities and non-existence of regulated market in the locality were found to be the major constraints faced by the respondents involved in livestock enterprises. The high cost of inputs, lack of money and non-availability of inputs in the local market are the major constraints faced by rural women in adopting the agricultural technologies. The reason attributed to this is that most of them belong to low annual income group and could not cope with the high cost of feed, medicine, etc. to manage their enterprises.

Inadequate/non-availability of credit was the next constraint expressed by majority of farm women involved in livestock enterprises. Since majority of the farm women respondents were illiterates and house wives, they did not have much exposure to different sources to locate the availability of the credit from various sources. Illiteracy and lack of knowledge and exposure on the part of the women who are mainly house wives would be the reason for the constraint of credit availability. The other reason might be that most of the respondents were landless and naturally suffered for want of adequate security in the form of immovable properties.

The next major constraint expressed by the farm women was lack of transport facilities. The sample area is remote with improper roads and lack of frequent bus facilities which would result in constraining the transport of their produce in time causing deterioration in quality and economic loss to the respondents. The farm women depend on the bus service as the only economic transport facility for marketing their produce. Lack of storage facilities was a constraint faced by majority of the farm women since their perishable produce such as meat, milk, eggs, etc. could not be stored in the event of market slump. They express the need for the provision of go downs and refrigerator facilities.

The next ranked constraint was non-existence of regulated market, exploitation of the middle men and fluctuating prices for their commodities. The farm women have to travel a long distance to sell their products. In addition, lack of veterinary aid, infrastructure facilities, technical guidance, non-availability of processing units, lack of proper training and non-availability of labor were the other constraints faced by the farmers.

7.10 DEVELOPMENT OF TRAINING MODULES

The only way we can make the best use of the actual and potential capacities of farm women who are mostly illiterate is to provide them opportunities for self-development through training. It is desirable that special programmes tailored to the needs and problems of farm women are organized exclusively for them to improve their productivity. It is an undisputed fact that training needs of farm women are presently not being given due attention.

In order that the needed push is given to farm women's training, it is important to first assess as to how far the existing programmes are creating to their specific needs and how they can be helped with respect to the changing employment opportunities open to them as a result of technological innovations in agriculture. Mainly two types of training may be organized for farm women for effective and efficient utilization of their potential. These are:

1. Training in latest advances in agriculture.
2. Training in leadership and to achieve motivation to develop the capabilities so that they may play on effective role as change agents.

There are many agricultural and allied operations which are performed exclusively or predominantly by women in view of these suggested below are a few topics for training which are of special interest to them;

1. Identification and control of stored grain, pest and disease.
2. Preservation of fruits and vegetables.
3. Care and maintenance of kitchen gardens.
4. Feeding and managements of domestic animals particularly cows and buffaloes.
5. Preparation and preservation of milk products and other food stuffs.
6. Use, care and maintenance of biogas plant.
7. Handling, care and maintenance of women specific implements and machines.
8. Mushroom cultivation.
9. Sericulture
10. Silviculture.

Considering the dual responsibilities of farm women within and outside the home more and more training programs has to be organized for them in the village.

It is in this context that the involvement of women in production –oriented training and extension programmes not only as change agents assumes great significance. Without education and training, they cannot have access to credit; technology and skills they need to better their lot and increase their efficiency as productive workers.

It may not be out of place to mention here that considering their dual responsibilities within and outside the home, it would be in the fitness of things that more and more in-the-village training is organized for rural/farm women to suit their convenience with due realization that institutional training is important in its own place. It underlines the need for creating mobile training centres to better serve the interests of farm women and young girls at their very door steps. Long duration residential vocational training courses are needed both in the field of agriculture as well as home science especially, for the young girls. The krishi vigyan Kendras (farm science centres) are devoted to training females in home science, as well as in agriculture including long term courses.

Conducting training programmes on the below specified areas may increase the confidence level of rural women and thereby help them to enroll better in the day to day activities. Few key areas identified are listed below;

<i>Heifer calf management</i>	⊗ Importance of feeding colostrums and calf starter ⊗ Rationing ⊗ Deworming, dehorning ⊗ Vaccination of calves ⊗ Weaning of calves
--------------------------------------	--

Breeding technology	⊗ Organization of infertility camp for better conception rate ⊗ Knowledge about pregnancy diagnosis for early corrective action ⊗ Periodic cross checking of semen motility and liquid ⊗ nitrogen level in containers at village veterinary centers for effective artificial insemination ⊗ Identification of animal in heat, insemination at proper time
Fodder production technology	⊗ Production of green fodder round the year through cultivation of different fodder crops like maize, fodder sorghum, BN2, CO-1, CO-2 and Leguminous fodder crops like Lucerne, stylo, subabul, glyricidia ⊗ Encouraging cultivation of seasonal forage crops ⊗ Demonstration of urea treatment of paddy straw.
Feeding technology	⊗ Ingredients to be used in homemade production ⊗ Feeding mineral mixture and salt ⊗ Feeding proper ration for heifer, pregnant cow, milch cow, dry cow ⊗ Knowledge about feeding schedule ⊗ Soaking of feeding material
Clean milk production	⊗ Knowledge about sources of microorganism ⊗ Awareness about milk borne disease ⊗ Cleaning shed and animals ⊗ Uses of disinfectants ⊗ Importance of clean and fresh water ⊗ Avoiding odor producing forage ⊗ Sterilizing the utensils
Vaccination and disease control	⊗ Knowledge about contagious diseases ⊗ Vaccination at regular interval against foot and mouth diseases, hemorrhagic septicemia, rinder pest
Product preparation	⊗ Cream, butter, ghee. ⊗ Icecream, shrikhand, paneer ⊗ Gulabjamun, bufi and ⊗ Flavored milk
Empowerment of women	⊗ Motivation ⊗ Leadership training ⊗ Cooperative education ⊗ Marketing / financial management ⊗ Communication skills ⊗ Gender sensitization ⊗ Group dynamics

Check Your Progress Exercise 2

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this Unit.

1. Explain the role of training in building capacities among farm women

7.11 SUMMING UP

Long standing obstacles faced by rural women in terms of limited access to productive resources (Land, Credit, Inputs, Transport, Extension Services, Storage and Technical Assistance) prevent them from adopting new technologies or enjoying them economies of scale. Although, women are more than ever finally employed, differences in wages earned by women and men persist in all countries. Women also have less access to productive resources especially in developing countries. Due to these reasons and women's lower education level compel the women have a greater tendency to remain in subsistence agriculture.

7.12 GLOSSARY

Extension Services: Agricultural extension is a general term meaning the application of scientific research and new knowledge to agricultural practices through farmer education. The field of 'extension' now encompasses a wider range of communication and learning activities organized for rural people by educators from different disciplines, including agriculture, agricultural marketing, health, and business studies. Extension practitioners can be found throughout the world, usually working for government agencies. They are represented by several professional organizations, networks and extension journals. Agricultural extension agencies in developing countries have received large amounts of support from international development organizations such as the World Bank and the Food and Agriculture Organization (FAO) of the United Nations.

7.13 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

1. Taking animal to grazing, Chaffing of fodder, washing of cattle, bringing the fodder from the field, preparation feed for animals.

Check Your Progress Exercise 2

1. The only way we can make the best use of the actual and potential capacities of farm women who are mostly illiterate is to provide them opportunities for self-development through training. It is desirable that special programmes tailored to the needs and problems of farm women are organized exclusively for them to improve their productivity. It is an undisputed fact that training needs of farm women are presently not being given due attention. In order that the needed push is given to farm women's training, it is important to first assess as to how far the existing programmes are creating to their specific needs and how they can be helped with respect to the changing employment opportunities open to them as a result of technological innovations in agriculture. Mainly two types of training may be organized for farm women for effective and efficient utilization of their potential. These are: Training in latest advances in agriculture and Training in leadership and to achieve motivation to develop the capabilities so that they may play on effective role as change agents. There are many agricultural and allied operations which are performed exclusively or predominantly by women in view of these suggested below are a few topics for training which are of special interest to them. Identification and control of stored grain, pest and disease; Preservation of fruits and vegetables ; Care and maintenance of kitchen gardens; Feeding and managements of domestic animals particularly cows and buffaloes; Preparation and preservation of milk products and other food stuffs; Use, care and maintenance of biogas plant ; Handling, care and maintenance of women specific implements and machines

7.14 REFERENCE

Anne F. Stenhammer, *Rural women agriculture, forests and employment*, UN Women, www.unwomensouthasia.org

Asif Javed, Saima Sadaf and Muhammad Luqman, *Rural Women's Participation in Crop and Livestock Production Activities in Faisalabad-Pakistan*, Journal Of Agriculture and Social Sciences, 1813-2235/2006/02-3-150-154.

Bala Brij, *Rural Women Work Only, They Don't Take Decisions.*, Tribune, 20th September, 2003, New Delhi.

Bibhu Santosh Behera and Anama Charan Behera, *Gender issues: the role of women in agriculture sector in India*, International Journal of Marketing, Financial Services & Management Research, Vol.2, No. 9, September (2013), ISSN 2277- 3622.

Chandan Medatwal, *Role of Microfinance in Empowerment of Women: A Study of Selected Experiments in Rajasthan*, Pacific Business Review International Volume 5 Issue 7, January 2013.

Humaira Akhtar and Bakht Baidar Khan, *Women: Dynamic partners in livestock production*, Review, Pak. 1. Agri. Sci. Vat. 37(3-4), 2000.

Livestock Thematic Papers Tools for project design, IFAD, 2003.

Ministry of Statistics .Men and Women in India. and Programme implementation, 2001.

Mohammad Shamsuddoha, *Development of livestock sector through leading NGO in Bangladesh*, The Annals of The "Ștefan cel Mare" University Suceava. Fascicle of The Faculty of Economics and Public Administration Volume 9, No.1(9), 2009.

Roshan Lal and Ashok Khurana, *Gender issues: The role of women in agriculture sector*, Zenith International Journal of Business economics and management research, Vol.1 Issue1, Oct 2011, ISSN 2249 8826.

Sethi, Raj Mohini, 1.*Women in Agriculture*. Rawat Publications, Jaipur, Rajasthan, 1991.

7.15 QUESTIONS FOR REFLECTION AND PRACTICE

1. Analyze the level of decision making among farm women in animal husbandry and related activities.



ignou
THE PEOPLE'S
UNIVERSITY

UNIT 8 PROPERTY: INDIVIDUAL, GENDERED ACCESS TO COMMON PROPERTY RESOURCES

- 8.1 Introduction
- 8.2 Objectives
- 8.3 What is Property?
- 8.4 History of Indian Women's Property Rights
- 8.5 Hindu Succession Act, 1956
- 8.6 Amendments to Hindu Succession Act, 2005
- 8.7 Property Rights of Muslim Women
- 8.8 Laws governing property rights of Christians and Parsis
- 8.9 Legal rights to landed property in India
- 8.10 Matrilineal and Bilateral systems of inheritance
- 8.11 Structural changes and its implications for women
- 7.12 Erosion of matrilineal inheritance practices
- 7.13 Significance of property: conflicting perspectives
- 7.14 Gap between theory and practice
- 7.15 Common Property Resources
- 7.16 Significance of CPRs for the rural poor
- 7.17 Gendered access to CPRs
- 7.18 Displacement and Alienation from CPRs
- 7.19 Implications of Loss of CPRs for women
- 7.20 Summing Up
- 7.21 Glossary
- 7.22 Answers to Check Your Progress Exercises
- 7.23 References
- 7.24 Questions for reflection and practice

8.1 INTRODUCTION

According to the United Nations Report on Women published in 1970, women constitute half the world's population, perform 2/3rd of the world's work, earn one tenth of the world's income and own one hundredths of the world's property. For a woman access to property is immensely empowering and yet fundamentally complicated.

8.2 OBJECTIVES

After studying this Unit, you should be able to:

- Describe the contested meanings of the word 'property';
- Demonstrate how property rights are governed by personal laws that vary across religious groups;
- Clarify an insight into women's legal rights in landed property;
- Summarize the gap between legal rights in property and ideological and normative prescriptions about appropriate gender codes;
- Identify the interlinked set of factors that hinder women's access to property;
- Demonstrate the importance of communal property resources for the poor and marginalized in rural areas; and
- Analyze the impact of resource degradation on women.

8.3 WHAT IS PROPERTY?

Available literature on gender and property points to the complex meanings of property. The significance of wealth and resources can only be revealed through an understanding of concepts of personal things and valuables, within specific cultural systems. Moors calls this 'The situated nature of property'. Property should not be understood through narrow connotations of capitalism and commodity but should include ideas of kinship and ideologies of personhood. For instance, control over the products of labour, wages or reproduction (children), marriage or honour for women can also be considered as property in a broad framework.

8.4 HISTORY OF INDIAN WOMEN'S PROPERTY RIGHTS

Property rights of women in India are based on religion and differ for women across different religious groups.

Inheritance Rights of Women under Hindu Personal Law

The inheritance rights of Hindu women are governed by the **Hindu Succession Act, 1956**. This Act is applicable to all states other than Jammu and Kashmir. In the Act, 'Hindus' are defined as including Sikhs, Jains and Buddhists. However, the Act has special provisions for Hindu matrilineal communities customarily governed by the Marumakkatayam and Aliyasantana systems, which have different rules in the devolution of property. There are also special provisions in the Act for the patrilineal Nambudiri Brahmins and tribal communities of the north-eastern states of Arunachal Pradesh, Manipur, Meghalaya, Mizoram and Nagaland are not covered by the Act and continue to be ruled by local customs. This law derives in large measure from the ancient Hindu texts of the 12th century, Mitakshara and Dayabhaga.

Mitakshara

It distinguished between two forms of property --joint family property and separate property. Joint family property included property inherited from father, paternal grandfather and great grandfather or any other property acquired separately and merged into joint family property. This property could be held jointly by male members' upto four generations that is a man, his sons, son's sons and son's son's sons who became co-parceners by birth. Women had no stake in this property unless, of course, they had no brothers and could inherit it directly or indirectly on behalf of their sons. They only had rights of maintenance as incoming wives, widows and unmarried daughters. Separate property was a man's self-acquired property and included gifts received at the time of marriage, property inherited from persons other than father, grand father and great grand father and gifts by his father from either his separate property or from the immovable property and his share of ancestral property on partition. A man had absolute control over this. Women enjoyed a limited interest in such property meaning she could enjoy the property during her life time but could not alienate it by gift, sale or mortgage.

Dayabhaga

Under the Dayabhaga system prevalent mainly in Assam and Bengal, no distinction was made between ancestral and self-acquired property. Man was the absolute owner of all his property and could sell, mortgage or gift it as he wished. Sons did not become co-parceners by birth. Property was divided equally among all heirs at the man's death and went in the first instance equally to his sons. A widow who remained chaste could inherit such property in the absence of male heirs but only with the right to manage but not alienate it. Daughters came after the widow with unmarried daughters getting preference over married daughters. Both systems also gave some recognition to female property rights in the concept of stridhan. Notions of what stridhan could include, how much control a woman has over it and how it would be inherited on the woman's death are mired in complex debates. Broadly speaking stridhan includes the following:

Movables given to a woman by her parents, brothers, relatives or husband after marriage and she had absolute control over these. There was a big controversy on whether landed property could be included as stridhan and what control women should be allowed over it. However, under both the Mitakshara and Dayabhaga school Hindu women could not inherit and control immovable property such as land and had a limited interest in it. In contrast men enjoyed a primary right to inherit and control immovable property.

8.5 THE HINDU SUCCESSION ACT, 1956

The Hindu Succession Act, 1956 retains the core provisions of *Mitakshara* and *Dayabhaga* while introducing a few changes. In the case of a Hindu male dying intestate (i.e. without leaving a will), all his separate or self-acquired property, in the first instance, devolves equally upon his sons, daughters, widow and mother. If there is a predeceased son, his children and widow get the share he would have received if alive; the children of a predeceased daughter get her share likewise; and the children and widow of a predeceased son of a predeceased son similarly inherit a share. All these are the primary or Class 1 heirs under the Act. In the case of a Hindu woman dying intestate (without leaving a will), if she has children or grandchildren from predeceased children, all her property in the first instance devolves equally upon her sons, daughters, children of predeceased children, and husband. If she has no living children and no grandchildren from predeceased children, the property devolution is as follows: that inherited from her parents goes to her father's heirs; that

inherited from her husband or father-in-law (as a widow of a predeceased son) goes to the husband's heirs; and that acquired in ways other than these passes to her husband, and failing him to his heirs. The Act gives all female heirs absolute ownership and full testamentary rights (right to will away) over all property, not just a limited interest in it.

So far as joint family property goes, for those previously governed by '*Dayabhaga*' joint family property devolved like separate property. But in *Mitakshara* joint family property, while the deceased man's "notional" share (that is as if the partition had taken place before his death) went intestate to all class I heirs (including females) in equal parts; sons, as co-parceners, additionally had a direct birthright to an independent share. Sons could also demand partition of the joint family property; daughters could not. While the Hindu Succession Act sought to undo some of the gender unjust provisions of the earlier inheritance laws it still had major sources of inequality.

The Act, as originally enacted, did not recognize women as co-parceners (subsequent amendments are discussed further in the following section 7.6). Daughters had a right only in the father's self- acquired property.

Second, if a male co-parcener were to renounce his rights in his co-parcenary property, his sons would retain their independent entitlements to the joint estate. But daughters, the widow and other Class I female heirs who had a right in such property through male co-parcener, would stand disinherited from such property.

Third, if a man willed all his property (including his separate or self-acquired property) to a stranger, his Class I female heirs would stand totally disinherited. But sons, because of their direct claims as co-parceners, would still be entitled to their share in the joint estate.

Fourth, unlike sons, married daughters (even if facing marital harassment) had no residence rights in the ancestral home.

Fifth, it did not recognize the children of a predeceased daughter among class I heirs, while recognizing the children of a predeceased son.

Since the passing of the Hindu Succession Act, four states (Andhra Pradesh, Kerala, Karnataka and Maharashtra) amended it to include women as coparceners. In States where the HSA had not been amended, the Act as originally enacted continued to be in force. However, this scenario changed in the year 2005 when significant amendments were carried out in the Hindu Succession Act which sought to do away with some of the gender- specific inequalities.

8.6 AMENDMENTS TO THE HINDU SUCCESSION ACT, 2005

First, the 2005 Act makes all daughters, including married ones, co-parceners in joint family property with the same birthrights as sons to shares and to seek partition.

Second, it gives all daughters (including those married) the same rights as sons to reside in or seek partition of the parental dwelling house.

Third, the legislation removes a discriminatory section which barred certain widows from inheriting the deceased's property, if they had remarried.

These amendments can empower women both economically and socially, and have far-reaching benefits for the family and society. Rights in co-parcenary property and the dwelling house will also provide social protection to women facing spousal violence or marital breakdown, by giving them a potential shelter.

However certain anomalies still remain. The power of unrestricted testation under Hindu Law would, in theory, affect sons and daughters equally, but given the social bias in favour of sons it works to daughter's disadvantage. Testamentary power must be limited to protect female heirs. On divorce, a woman thus gets no property benefit from any direct or indirect economic contribution she makes during her marriage toward increasing her husband's wealth. Therefore, what we need is equal rights for both spouses in the ownership and control of property acquired by either spouse after marriage, and for an equal division of such property on divorce.

Check Your Progress Exercise 1

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this Unit.

1. Describe in brief the property rights of Hindu women.

8.7 PROPERTY RIGHTS OF MUSLIM WOMEN

A vast majority of Muslims in India follow the Hanafi School of law and a small percentage the Shia law. Hanafi school recognizes three categories of heirs: i) Koranic heirs who are mostly female, ii) Agnatic heirs who are all male; and iii) Distant kindred.

Distant kindred are those blood relatives who are neither agnatic nor koranic. They are connected to the deceased through a female link like daughter's children, son's daughter's child, paternal and maternal aunts and their children.

Daughter (an only child) receives a half share of the deceased parent's property as a Koranic portion. If there are two or more daughters and no sons they jointly get $\frac{2}{3}$ rd share (to be divided equally among them). Presence of a son (an agnatic heir) converts a daughter's right from an agnatic heir to an agnatic co-sharer which means she gets half of what the son gets. Wife gets $\frac{1}{8}$ th or $\frac{1}{4}$ th of the husband's property depending on whether or not there is a child or son's descendants. The husband gets $\frac{1}{4}$ th of his deceased wife's property if there is a child or son's descendants and half share if there are no descendants.

Muslim women therefore have rights in ancestral immovable property although unequal to men. Unlike under Hindu personal law where a father can will away all his property to his son, depriving his daughter of a share, under Muslim personal law women enjoy protection from testation. No more than one third of the property can be willed to a stranger after obtaining the consent of all the heirs.

8.8 LAWS GOVERNING PROPERTY RIGHTS OF CHRISTIANS AND PARSIS

The 1956 Hindu Succession Act covered Sikhs, Buddhists and Jains under the definition of 'Hindu'. But a different set of laws govern other minority communities such as the Christians and Parsis in India, as briefly outlined in the following discussion.

Christians

Under the Indian Succession Act of 1925, if a man dies intestate leaving lineal descendants, his widow gets one third of his estate, while sons and daughters get equal shares in the rest. If there are no lineal descendants, but there are other kindred who are eligible to inherit, the widow gets half the estate; and in the absence of both lineal descendants and kindred, she gets the whole property. There are no restrictions on testation.

Parsis

The Parsis are governed by the Indian Succession Act, 1925, that incorporated a few provisions for the Parsis in 1939. Under these provisions the property of male and female intestates devolved according to separate rules (Paruck, 1977). In a deceased man's property, other than agricultural land, the widow and each son got double the share of each daughter. In agricultural land, the devolution was according to the Parsi rules of succession prevailing prior to the 1939 enactment. The widow and daughter respectively got one-half and one fourth of what the son got. In a deceased woman's property, the husband, son, and daughter got equal shares. Hence daughters shared equally with sons in the mother's property but unequally in father's property.

With the passing of the Indian Succession (Amendment) Act 1991 the difference in the succession of male and female property among Parsis has been removed. Now devolution of intestate property of a Parsi male or female is as follows. If the intestate leaves behind a widow/widower and children, these heirs get equal shares. Where there are no lineal descendants, but there is a widow/widower of a lineal descendant, the latter gets one-third, the remainder going to other relatives. And where there are neither lineal descendants nor widow/widower of lineal descendants, the widow/widower of the deceased gets half the property.

All Indians can opt out of their personal succession laws if they have a civil marriage under the Special Marriage Act of 1954, or if their marriage is registered under the Special Marriage Act of 1954, even if it was contracted in another way. For such persons, the Indian Succession Act of 1925 applies, under which the widow of an intestate male with lineal descendants gets a fixed share of one third in his property and his children of both sexes inherit equally in the rest.

8.9 LEGAL RIGHTS IN LANDED PROPERTY IN INDIA

It is important to consider legal rights in landed property as a separate section because initially rights relating to land were excluded from the inheritance laws and came under the jurisdiction of the states. There were considerable anomalies in these laws as they varied from state to state. Especially in the north-western states, these laws were highly gender unequal and gave primacy to male lineal descendants in the male line of descent. Women came very low in the succession order and got only a limited estate. Land reform enactments governing the fixation of ceilings are similarly gender unequal in many states. However some of the gender discriminatory provisions have been done away with in the recent amendments in 2005.

Amendments

First, the Hindu succession Act, 2005 makes women's inheritance rights in agricultural land equal to men's on par for all states, overriding any inconsistent state laws. This removes a major gender discriminatory clause that excluded from the purview of the Hindu Succession Act significant interests in agricultural land, the inheritance of which was subject to the succession rules specified in state level tenurial laws. However, tenancy rights to agricultural land are still exempted from the HSA (1956) and legislated by individual states.

Despite the above amendments and progressive legislation in recent years, certain glaring inequalities persist.

- For instance, in laws pertaining to the fixation of ceilings, many states allow additional land to a cultivator on account of adult sons, or allow own sons to directly hold such additional land in their own right, but adult daughters are given no such consideration; and in several states, unmarried adult daughters do not figure as part of the family unit, or as separate units. In the assessment (and State appropriation) of ceiling surplus land, the land of both spouses is typically aggregated, leaving the wife vulnerable to disproportionately losing her land, especially in the northern states. These ceiling laws affect all religious communities.
- In a number of states the succession rules relating to land held under tenancy have a different order of devolution than that specified by the personal laws. For instance in

the tenurial laws of Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Delhi and Uttar Pradesh, inheritance showed a strong preference for agnatic succession, with a priority for agnatic males. In all these states, the tenancy devolves in the first instance on male lineal descendants in the male line of descent. The widow inherits only in the absence of these male heirs. In addition, in the first four states mentioned, daughters and sisters are totally excluded as heirs. Moreover, in all these six states, a woman (in any capacity) can hold only a limited interest in the land, in that after her death the holding goes not to her heirs but to the heir of the last male landowner. She also loses the land if she remarries or abandons the land (that is, fails to cultivate it for a specified period, usually a year or two).

- States where the tenurial laws explicitly mention that the devolution of tenancy land will be according to personal laws are very few, and include Rajasthan and Madhya Pradesh where the personal law applies to all communities.

8.10 MATRILINEAL AND BILATERAL SYSTEMS OF INHERITANCE

Matrilineal and Bilateral systems of inheritance advantaged women in many ways giving them economic and social security and autonomy and equality in marital relations. These systems however did not remain fixed over time. State intervention in the colonial and post colonial era and the complex processes of social and cultural change that these set in motion eroded customary practices.

In India there are three pockets of matrilineal kinship: Garos and Khasis of Meghalaya, Nayars and Tiyas of Kerala and Mapillas of Lakshadweep Islands. Garos of Meghalaya subsisted entirely on jhum cultivation (shifting cultivation) and gathered forest produce. There was communal ownership of land and ownership rested with the dominant clan composed of the descendants of a common ancestress. Control was exercised by the husband of the inheritress of the founding household. He only had custodial rights and could not alienate property by either gift or sale.

All property including movables and ancestral house other than land passed from mother to youngest daughter. Like the Garos, the Khasis are a matrilineal tribe occupying the Khasi Jaintia hills of Meghalaya. Land was traditionally held in joint family estates and was not individually inheritable. Inheritance was through the female line even though most women

had little control over the management of property. Under no circumstances could men inherit property.

A man's property earned before marriage would revert back to his mother and sisters when he got married among Nayars of both Central and North Kerala. Among the Central Kerala Nayars women continued to reside in their natal homes after marriage. In North Kerala even though women moved to the husbands home after marriage land remained within the control of the natal family. One agrarian community of South India Nangudi velars of Tamil Nadu practiced matrilineal descent through bilateral inheritance. About half the property including land was held by men and passed from father to son and about half was held by women and transferred from mother to daughter.

8.11 STRUCTURAL CHANGES AND ITS IMPLICATIONS FOR WOMEN

As mentioned earlier these systems underwent significant changes which altered the system of property inheritance. Shifts from jhum to wet rice cultivation triggered several changes that impacted the property rights of women within the matrilineal communities. Truncated land area, growing population pressure on the limited land and direct encouragement of wet rice cultivation by the state led to changes in agricultural techniques and practices. These new skills were taught to men and not women.

Women's role which was primary in jhum cultivation was rendered secondary. Decline in jhum and forests has also reduced women's access to the cash they earn from selling forest produce. This eroded the communal pattern of Garo land ownership and led to increasing privatization in individual hands. The British, and after independence, the Indian state began to grant pattas (titles) to individuals and these titles were given to males.

8.12 EROSION OF MATRILINEAL INHERITANCE PRACTICES

With privatization, land has become part of family property. When rice cultivation began in the 1950's, parents with modest holdings gave the whole of land or a part of it to the heiress daughter to prevent land fragmentation. However, there are pulls in the opposite direction now with parents favouring land transfer to sons. This is primarily due to the decreased participation of women in agricultural operations, besides, of course, the relative prosperity and economic self sufficiency of the villages. Unmarried sons who renounced claims to

independent jhum plots after marriage now try and gain access to some land bringing it under wet cultivation.

Norms of post-marital residence have changed. With the growing multiclan nature of villages, it is possible to find prospective groom and bride within the village itself and so the sons are retained within the family. This increases the possibility of their gaining village land over a period of time.

There has been a decline in women's inheritance rights in Kerala, since the middle of the 19th century. Dowry is replacing inheritance rights as a mode of transfer of property to women. While women do inherit property among matrilineal groups, many of them have to sell land because of migration due to marriage. Varghese in a study in 1988 found out that 35 out of his sample of 54 Nambudiri women sold land between 1955 and 1980 because they were moving into the husband's home. Among the matrilineal Izhavas, land was sold and the cash equivalent given to girls as a form of dowry over which she may not have much control. Mother-daughter inheritance is becoming rare as women do not have land to pass on to their daughters. Over the past half century, dowry has become quite common among matrilineal groups like Tiyas, Mappilas and Izhavas (Osella and Osella, 2000).

Check Your Progress Exercise 2

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this Unit.

1. What kind of property rights do women have under the matrilineal system of inheritance?

8.13 SIGNIFICANCE OF PROPERTY: CONFLICTING PERSPECTIVES

For women, how important is property as a resource? There are conflicting perspectives stemming from empirical observations. Srimati Basu (2001) writes that within the capitalist world system the significance of property cannot be overemphasized. In her study on middle

class and lower class women in Delhi, women underlined the significance of property as an insurance for old age, as a safeguard against coercion of husbands and as a symbol of strength and respect. Bina Agarwal (1994) forcefully argues in favour of property rights in land and her study across five countries in South Asia show the advantages that derive if women are given legitimate shares in land. Gail Omvedt (1990) underlines the link between violence against women and their lack of property and resources. Violence and the threat of violence keeps women confined to the unorganized sector as agricultural labourers, wage workers and sellers of forest produce and make them economically weak and this economic vulnerability, in turn, incapacitates them to resist structures of violence.

Govind Kelkar similarly points out that witch hunts in India aimed at marginalizing women and excluding them from land rights and other production processes. With diversification of livelihoods, men have moved into non-farm activities while women because of their low skills (lower literacy levels, restrictions on mobility and child care responsibility, household care) leave women behind to tend the land. In such a context of feminization of agriculture, lack of property rights puts women in a disadvantageous position. They are unable to access credit, and other resources (Rao, 2005).

Other empirical studies, however, do not lend support to the idea of property as fundamentally empowering. For instance in Srimati Basu's (2001) study among urban middle class women in Delhi, respondents' apprehensions of being the *haklenewali*, being regarded as greedy and grasping and of losing the love and affection of near and dear ones often made them decline natal property in favour of marital and affinal resources. For women to acquire property independently is difficult, considering the unequal wage structure in the labour market and low rates of work force participation in the formal sector. Nor do they get any property from the natal families. Under these circumstances the only way for women to earn property was either as widows or through marriage. At least marriage ensured a superior standard of living as compared to non-married women's struggles to survive without the financial resources of males. Dowry is equated with inheritance and the idea that women get affinal property. Dowry became the only culturally acceptable female entitlement to natal property.

Bina Agarwal (1994) argues that access to land can reduce the risk of poverty and can be a source of empowerment. However, this link is not very clear. Lipton (1985) found the links

between ownership of land, particularly poor quality land and poverty reduction to be tenuous. Heyer (1989) found landless labour women in Tamil Nadu preferring to invest in the education of their children, or in social networks, rather than land, as this could, in fact, restrict their mobility in search of work. Their main resource is their body and not land. Hence a focus on improving their skills and capacities could be more worthwhile than giving them a small plot of bad quality land. One needs to acknowledge that with increasing land scarcity, combined with diversified livelihood systems and agriculture becoming the lower paid, lower value sector dominated by women, land alone cannot give women work and income and improve their status. This has to be integrated with other opportunities as well (Rao, 2005).

Third, from a gender perspective, in a situation of scarce resources, there is likely to be contestation over the control of any 'new' resource (for example, regenerated wastelands or common property), be it between castes, groups or genders (Sarin, 1997). Further, social and domestic constraints faced by women prevent them from operating freely in markets, apart from the gendered nature of labour, credit and product markets themselves. Finally, most of the arable land available is private land, transferred largely through inheritance. Apart from being a productive resource, land is also a social resource. Saradamoni (1985), in her study of land relations in Kerala, points out that women take pride in land as a family resource rather than as a group or individual resource.

8.14 GAP BETWEEN THEORY AND PRACTICE

Despite legal rights to property, there is routine disinheritance of women from natal property. Attempts by women to access property rights are often frustrated. How does one explain this scenario? Most legal systems have features which are actively discriminatory to women, denying them equal rights to property and these have been spelt out earlier. But even when there is *de jure* equality, law in its actual functioning discriminates against women because legal agents (police, judiciary) interpret laws in patriarchal ways. For instance judges frequently use culturally prescribed ideas about women's rights and responsibilities to justify women's disentitlement from property such as:

- Property being a reward for elder care- giving by sons;
- Dowry being a form of property; and
- Daughters getting husband's property.

There has been male bias in state land distribution programmes under land reforms, resettlement schemes and various land development schemes. For instance, the land reform programme that was undertaken in Kerala in 1970 had a patriarchal framework and the titles mostly went to men. As a result of such a programme, lost land they owned either due to absentee landlordism or Ceiling Laws. Similarly in West Bengal, 14 years after its introduction, the government issued a circular calling for joint titles in the names of both husband and wife. Even when *pattas* were being given out in joint names the women did not have signatures on their receipt. Under such conditions they can hardly exercise control over resources they theoretically own.

Even when laws treat men and women equally they are discriminatory to women because men and women are located in an unequal social structure which frustrates women's attempts to access laws. As Srimati Basu (2001) points out, the Hindu Succession Act was passed in India in 1956 theoretically giving women the right to equal inheritance of their parents' self-acquired property but in the years since its passing its provisions have scarcely been utilized.

As she argues further, it is not ignorance of law or unthinking adherence to gender norms but rather an intricate negotiation of kinship and an optimization of socioeconomic and emotional needs that guides women's decisions on property matters. Women renounce their claims in return for economic and social support from their brothers.

In this connection, Bina Agarwal (1994) argues that there is a gap between ownership of land and effective control. Patrilocal marriages in other villages make it difficult for a woman to supervise agricultural operations. This drawback is compounded by such practices as *purdah*, constraints on a woman's sexuality, mobility, high illiteracy, male control over agricultural technology, male bias in the dissemination of information.

However these constraints do not operate uniformly on an all India basis. There are regional variations. These constraints are greatest in parts of North India and least in south India.

8.15 COMMON PROPERTY RESOURCES

Common property resources (CPRs) can be broadly defined as those (non-exclusive) resources in which a group of people have co-equal use rights. Membership in the group of co-owners is typically conferred by membership in some other group, generally a group whose central purpose is not the use or administration of the resource (*per se*), such as a village, a tribe, etc. In the context of Indian villages, the resources falling in this category include community pastures, community forests, wastelands, common dumping and threshing grounds, watershed drainages, village ponds, rivers, rivulets as well as their banks and beds (Jodha, 1990).

8.16 SIGNIFICANCE OF CPR'S FOR THE RURAL POOR

Common property resources have immense significance for the poor in rural areas. The poor depend on them for their survival and sustenance in the following ways:

- They supply fodder and grazing space especially for small farmers.
- CPRs greatly contribute to the poor's nutrition by enabling them to gather food from forests, ponds, and other sources and strengthening their self-provisioning system.
- CPRs, as sources of physical supplies as well as employment and income, cushion dryland farmers' welfare during crisis periods, e. g. droughts.
- Women depend more than men on CPR's for their economic well-being and social status and as caretakers of the family.
- They provide fuel, fodder, fibre, food products, medicinal herbs, materials for house construction etc.

8.17 GENDERED ACCESS TO CPR's

Access to common property resources is not gender neutral. Women's access to common property resources is mediated through men. Even among tribal groups where women enjoyed better access to CPRs than women in Dalit groups they could not decide about the type of crops to grow. For instance, traditionally in these tribes, the male village council decides which plot to cultivate in a given year, the amount of land to be allotted to each family depending on the number of mouths to feed. Then, the male head of the family chooses the plot that his family will cultivate and performs religious rites to mark this. Once this is complete, the woman takes over. This gave her partial control over the community resource and enhances her status even though she did not become equal to her man. Thus, the

man continued to control the resource and inheritance while the woman was in charge of production and the rest of the family economy.

8.18 DISPLACEMENT AND ALIENATION FROM CPR'S

Common lands are being depleted rapidly both in quantity and quality. Much of this decline can be attributed to the dual processes of statization (appropriation by the state) and privatization (appropriation by individuals). In the 19th century, the British established control over the forests and cut large tracts for timber exploitation for use in railways and ship building, cleared forest land for tea and coffee plantations. The Post-colonial state continued this process for urban industrial expansion, irrigation, dams and other development projects. It also restricted the customary rights of the local population over these resources.

Privatization has led to an increasing concentration of previously communal land in the hands of male members of a few elite households. Within poor households women's loss has been greater than men's because of their dependence on communal resources given their very limited control over private resources. The commons got further reduced because of acquisition of commons in the name of "Public Good" for constructing schools, dispensaries and playgrounds.

Development and displacement arises from the principle of eminent domain which conceives of CPRs such as land and forests with no individual title as belonging to the state and the state has the right to decide what constitutes public purpose and to deprive individuals of the assets in its name. In case of development-induced displacement, much of the land acquired consists of forests or other CPRs. As a result the CPR- dependent communities have to begin life afresh without any support. They receive no compensation for CPR's. The market value of the land they own is low. High landlessness ensues in these situations.

8.19 IMPLICATIONS OF LOSS OF CPRs FOR WOMEN

Alienation from common property resources strikes at the roots of women's economic autonomy and her high social status.

Transition to individual ownership

The first result of the loss of CPRs is landlessness or transition to individual ownership and the loss of livelihoods for tribals, dalits and other marginal groups. Very few development

projects successfully resettle the displaced. In land -based resettlement those that are resettled happen to be ‘patta’ holders, that is men. Within CPR-dependent communities, women controlled the economy and production and had decision-making powers in the family. With individual ‘pattas’ becoming the norm, power is transferred to the man. The woman is deprived of her economic autonomy.

Rehabilitation and women

There are no alternatives for lost livelihood and the inevitable result is impoverishment. Very few projects provide salaried jobs to the male displaced let alone women. Empirical studies from the states of Orissa, Andhra Pradesh, Kerala and Goa show that very few jobs are available for Project Affected People (Fernandes, 2009). In the north-east, lack of industrial development forces a large majority of educated people with higher skills to depend on agriculture. Consequently, land alienation destroys their livelihood and has serious implications for women. Moreover, most jobs given to women are unskilled and based on daily wages. Many men who are given jobs as peons or maintenance staff in the project office refuse to allow their wives to take up these jobs because they feel it is below their dignity. Thus, women no longer have a productive role in the economy. But they are still responsible for the household needs which they earlier used to get from their land and forests.

Internalizing inequality

Once the common property resource base is lost, many women end up with unskilled jobs in the informal sector. Patriarchal norms are reinforced and women begin to internalize the ideology of women’s subjugation and accept their unequal status.

Check Your Progress Exercise 3

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this Unit

1. What are common property resources? Explain the significance of CPRs for the rural poor.

8.20 SUMMING UP

Our discussion in this Unit demonstrates that despite some contestations property remains a fundamental resource for women and effective rights in property, especially immovable property, are of critical importance for women's economic and social empowerment in India. However, access to legal rights is severely curtailed and restricted by a complex set of interlinked factors. Women's access to property is best appreciated by considering various kinds of resources cumulatively. There are different dimensions of property. Natal inheritance, affinal wealth, dowry and potential for education and employment.

In addition, class also affects the form of property ownership. While middle class women with good educational and economic opportunities had important economic resources for survival, for improving their standard of living they shared the benefits of their husband superior financial resources, if married. Women from the lower socio economic class and rural backgrounds are worse off with or without educational assets, good opportunities for formal employment or much chance of getting family land. They had to depend on men who were themselves disempowered in the urban milieu.

The ideological significance of property must not be lost sight of. Property rights are often mediated through family and kinship ties. How women negotiate between dominant discourse of family, nation and tradition and make optimal personal choices given socioeconomic and ideological constraints must also be considered.

8.21 GLOSSARY

Pattas: All lands in the state is classified into various categories and maintained in the survey and land records.

Patta land means it is private property standing in the name of an individual. In fact, in case of civil disputes, a patta holder is having good title over the property.

Patrilocal marriage: Patrilocal marriage implies a form of marriage pattern in which couples live within the husband's family. Patrilocal residence is a form of conjugal residence in which the wife lives in the community/village/house of the husband. In some areas people

practice the culture of temporary patrilocal residence in which the couple live with the husband's parents only for a certain time period.

8.22 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

Property rights of women in India are based on religion and differ for women across different religious groups. The inheritance rights of Hindu women are governed by the Hindu Succession Act, 1956. This Act is applicable to all states other than Jammu and Kashmir. In the Act, 'Hindus' are defined as including Sikhs, Jains and Buddhists. However, the Act has special provisions for Hindu matrilineal communities customarily governed by the Marumakkattayam and Aliyasantana systems, which have different rules in the devolution of property. There are also special provisions in the Act for the patrilineal Nambudiri Brahmins and tribal communities of the northeastern states of Arunachal Pradesh, Manipur, Meghalaya, Mizoram and Nagaland are not covered by the Act and continue to be ruled by local customs. This law derives in large measure from the ancient Hindu texts of the 12th century, Mitakshara and Dayabhaga. First, the 2005 Act makes all daughters, including married ones, coparceners in joint family property with the same birthrights as sons to shares and to seek partition. Second, it gives all daughters (including those married) the same rights as sons to reside in or seek partition of the parental dwelling house. Third, the legislation removes a discriminatory section which barred certain widows from inheriting the deceased's property, if they had remarried. These amendments can empower women both economically and socially, and have far-reaching benefits for the family and society. Rights in coparcenary property and the dwelling house will also provide social protection to women facing spousal violence or marital breakdown, by giving them a potential shelter. However certain anomalies still remain. The power of unrestricted testation under Hindu Law would, in theory, affect sons and daughters equally, but given the social bias in favour of sons it works to daughters disadvantage. Testamentary power must be limited to protect female heirs. On divorce, a woman thus gets no property benefit from any direct or indirect economic contribution she makes during her marriage toward increasing her husband's wealth. Therefore what we need is equal rights for both spouses in the ownership and control of property acquired by either spouse after marriage, and for an equal division of such property on divorce.

Check Your Progress Exercise 2

1. All property including movables and ancestral house (other than land) passed from mother to youngest daughter. Like the Garos, the Khasis are a matrilineal tribe occupying the Khasi Jaintia hills of Meghalaya. Land was traditionally held in joint family estates and was not individually inheritable. Inheritance was through the female line even though most women had little control over the management of property. Under no circumstances could men inherit property. A man's property earned before marriage would revert back to his mother and sisters when he got married among Nayars of both Central and North Kerela. Among the Central Kerela Nayars women continued to reside in their natal homes after marriage. In North Kerela even though women moved to the husbands home after marriage land remained within the control of the natal family. One agrarian community of South India Nangudi velars of Tamil Nadu practiced matrilineal descent but bilateral inheritance. About half the property including land was held by men and passed from father to son and about half was held by women and transferred from mother to daughter.

Check Your Progress Exercise 3

1. Common property resources (CPRs) can be broadly defined as those (non-exclusive) resources in which a group of people have coequal use rights. Common property resources have immense significance for the poor in rural areas. The poor depend on them for their survival and sustenance in the following ways:
 - They supply fodder and grazing space especially for small farmers
 - CPRs also greatly contribute to the poor's nutrition by enabling them to gather food from forests, ponds, and other sources and strengthening their self-provisioning system.
 - CPRs, as sources of both physical supplies as well as employment and income, cushion dryland farmers' welfare during crisis periods, e g, droughts.
 - Women depend more than men on CPRs for their economic well being and social status and caretakers of the family.
 - They provided fuel, fodder, fibre, food products, medicinal herbs, materials for house construction etc.

8.23 REFERENCES

Agnes, F, Chandra, S et al. (2004). Women and Law in India. New Delhi:OUP

Agarwal, Bina. (1999). Gender and Legal rights in Landed Property in India.New Delhi: Kali For Women.

Agarwal, Bina (1994). A Field of One's Own: Gender and Land Rights in South Asia. New Delhi: Cambridge University Press.

Basu, Srimati. (2004). She Comes to Take her Rights: Indian Women, property And Propriety. New Delhi: Kali for women

Mehta, Lyla.(Ed) (2009). Displaced By Development. New Delhi: Sage Publications.

Nathan and Kelkar. Women as witches and keepers of demons: Changing gender relations in adivasi communities In Kannabiran, K. (ed). The Violence of Normal Times: Essays on Women's Lived Realities. New Delhi.Kali for women

Omvedt, Gail (1990). Violence Against Women: New Movements and New Theories in India. New Delhi: Kali For Women.

Gupta, Jayoti (2002). Women Second in the Land Agenda. Economic and Political Weekly. Vol 37, No 18.

Jodha, N.S (1990). Rural common Property Resources: Contributions and Crises. Economic and Political Weekly. Vol 25, No 26

Jodha, n.S. (1986). Common property Resources and Rural poor in Dry Regions of India. Economic and Political Weekly. Vol 21, No 27

Kodoth, Praveena.(2005). Fostering Insecure Livelihoods. Economic and Political Weekly. Vol 40, No 25

Kodth, Praveena and Eapen, Mridul. (2005). Looking Beyond Gender Parity. Economic and Political Weekly. Vol 40, No 30.

Rao, Nitya. (2005). Women's Rights to Land and Assets. Economic and Political Weekly. Vol 40, No 44.

Rao, Nitya. (2005). Gender equality, land rights and Household Food security. Economic and Political Weekly. Vol 40, No 25

Groundbreaking legislation. (2005). Economic and Political Weekly. Vol 40, No 42.

8.24 QUESTIONS FOR REFLECTION AND PRACTICE

1. Explain the property rights of Hindu women.
2. Briefly elaborate on the property rights of Muslim women.
3. How important is property as a resource for women?
4. Why do you think there is a gap between rights as given by law and actual implementation of those rights?
5. Discuss the factors that have led to the erosion of women's rights under the matrilineal systems of inheritance.
6. Discuss the significance of common property resources for the poor in rural areas.
7. How has the degradation of common property resources impacted women?
8. Discuss the recent amendments to the Hindu Succession Act, 1956.
9. List the factors that make it difficult for a woman to access property rights.
10. What are the gender discriminatory provisions that are still prevalent in laws governing property rights of Indian women?

UNIT 9: COMMON PROPERTY RESOURCE MANAGEMENT IN PANCHAYATI RAJ

Structure

9.1 Introduction

9.2 Objectives

9.3 Common Property Resources: Concept and Definition

9.4 Tradition and Decline of Common property Resources in india

9.5 Status of Common Property Resources in India and impact on rural poor

9.6 Significance of CPR for poor

9.7 CPR under new Panchayati Raj system

9.8 Gramsabha and Common Property Resources

9.9 Role of Women Panchayat Presidents in CPR management

9.10 Role of CPR in disaster prevention- Bioshield

9.11 Summing Up

9.12 Glossary

9.13 Answers to Check Your Progress Exercises

9.14 References

9.15 Questions for Reflection and Practice

9.1 INTRODUCTION

Common property resource management is one of the most important subject widely discussed in the recent development literature all over the world. In India Indian Institutes of Management and Indian Institute of Science have largely contributed to this emerging field of national importance.

9.2 OBJECTIVES

After studying this Unit, you would be able to

- define Common Property Resource (CPR) management;
- discuss the reasons for deckling of Common Property Resources in India;
- analyze the significance of CPR among poor; and
- examine the role of gram panchayats in preserving CPR.

9.3 COMMON PROPERTY RESOURCES: CONCEPT AND DEFINITION

Interest in the study of common property resources was started in west with the publication of a famous article in 'Nature' in the year 1968 by Garrent Hardin titled 'the tragedy of commons'. Hardin an environmental scientist of Darwinian and Adam Smithian school strongly argued for the privatization of common natural resources held by the state to save them from environmental degradation or 'the tragedy of common'. Number of studies emerged in support or against the theory of Hardin all over the world. Living models of management of common resources by the traditional system came in to time light as an alternative to Hardin's model. Models of community management of resources are found even in Western cultures and in countries like Canada and U.S.A. As a result powerful theories are formulated to highlight the concept meaning and importance of common property resources. Now, common property resources are considered as one of the essential and the most fundamental requirements for the survival of our planet.

Even though there are number of definitions for CPR it is very difficult to give one single definition acceptable for all. One possible definition of common property resources is "resources accessible to the whole community to which no individual has exclusive property rights". "Common property resources are the resources managed by community organizations (traditional, modern or elected) for the use of the members of community under certain rules, regulations and restrictions. Common properties are not 'no one's property' or state property or private property. Modern Western legal systems can generally understand only two types of property regimes, private property and state property. But in practice a large portion of resources in the traditional societies are still managed by community systems even through these resources may be legally owned by the state.

Villages in India are still rich in common property resources even though they are being eroded very fast. Some of the resources are village tanks, fisheries, grazing lands, thrashing lands, *parombok* lands(Common Lands), footpaths etc. All these resources are owned by government. But the local communities play the most critical role in the protection and use of these resources. In other words, state, however it may be powerful or efficient, is not fit for management of certain resources spread over the country without the active imitative involvement and participation of local community. Certain resources can only efficiently managed by the local

community and no outside agency can manage such resources as efficiently as local. Certain resources and communities are totally inter-dependent and one cannot survive without the other. So there is need for institutional arrangements to transform the theory of CPR in to a reality. These institutional arrangements can link peoples and resources, translating interests into claims, claims into rights. In short common property regimes are forms of management grounded in a seat of accepted social norms and rules for the sustainable inter-dependent use of collective goods such as forests, grazing grounds fisheries and water resources etc.

9.4 TRADITION AND DECLINE OF COMMON PROPERTY RESOURCES IN INDIA

India has a very tradition of common property resource system. Indian village were functioning as autonomous systems of resource management. Archaeological and literary evidences gave very clear pictures of such systems. Kari Marx described in the following words ‘ these small and extremely ancient Indian communities are based on common possession of land, on the blending of agriculture and handicrafts.....’ O’Malley remarks: “The chief social institutions, as they existed in their integrity, were not individualist but collectivist”.

The concept of individual private property in the modern sense was not known to the traditional Indian village system. Land, water, forest were treated as resources held in common. Individual families could own and use them within the regulations of the village community. In other words these resources were not considered as properties which could be sold, purchased or mortgaged without any restrictions. Village community has authority over the resources like land, water, forest, fisheries etc. Village community was collectively responsible for payment of revenue to the state. Community for its survival depended on the natural resources available locally. “The evolved their own traditions and methods for using them in a sustainable way. In areas of settled farming, village typically included not only the cultivated lands but the surrounding village commons, which might include forest, ponds, and pastures. The uses of common resources are governed by customs or by explicit rules”.

In Tamil Nadu alone there are around 45,000 village tanks managed by local communities. The Uthiramarur inscription gives details of the managements of such tanks by the village community.

British conquest of India led to a revolutionary change in the existing resource management system. British introduced new laws and established the concept of private ownership of land. Lord Cornwallis introduced first group of landlords in India by permanent land revenue system. From that day onwards British economic conception for resource management was adopted in India. Suddenly nothing was held under common. Non-land owning class was legally excluded from almost all traditional rights they enjoyed. The responsibilities of the community over natural resources were taken over by the newly created revenue department of East India Company. East India Company considered every resource available in India as a readable commodity. Bipan Chandra says “The use of pasture and forest lands, irrigation canals, fisheries and homestead plots and protection against enhancement of rent were some of their rights which were sacrificed.” Colonial British government asserted sovereignty over most of the resources in India, abrogating the traditional rights and management regimes of village tribal societies. Government considered forests as ‘timbermines’ to be exploited for ship building, railways and boiler fuel. Large estates and plantations were promoted for the benefit of private owners sacrificing the traditional rights of the people. Cultivable land was expanded speedily to increase the land revenues. Even independent Indian government after 1947 did not reverse this process but further extended these trends. Statistical evidences show how fast resources available for common use are fastly shrinking.

9.5 STATUS OF COMMON PROPERTY RESOURCES IN INDIA AND IMPACT ON RURAL POOR

The colonial policy of resources management has been recasted to the ‘development needs’ of the economics of the green India. Large scale exploitation of resources are getting full support from the government. Over exploitation of scarce ground water has been encouraged by distribution of free electricity and subsidized loan facilities for fixing pumpsets to promote commercial agriculture for the benefit of the industrial sector. Forest areas are transformed in to pulp producing farms for paper industry. India’s cultivable land area have been expanded almost to its limit at the cost of common lands. Land ceiling acts are fastly weakened to accommodate corporate farming ventures. In semi arid regions spanning eight states, the area of commons declined by 30 per cent to 50 per cent between 1950 ad 1980.

Check Your Progress Exercise 1

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this U nit.

1. Define CPR

9.6 SIGNIFICANCE OF CPR FOR POOR

Almost the entire population in the village use one or more CPR. Particularly women, poor, marginal farmers, widows, destitute, children and craftsmen are critically dependent on CPR. In states like Rajasthan, Madhya Pradesh, Assam, Manipur, Meghalaya the importance of CPR for poor is well recorded. In Madhya Pradesh 50 per cent of the labour and small farmers consume CPR food items. In Rajasthan 30 per cent of the labour and small farmer households consume only CPR food items that are collected and purchased (Jodha) CPR based income in Rajasthan as proportion of gross income per household is 42 per cent for the vulnerable sections in Rajasthan (Jodha).

According to Jodha:

- (i) 84 to 100 per cent poor rural household collect food items from CPRs.
- (ii) Almost 100 per cent poor household collect fuel, fodder and fibre from CPRs.
- (iii) The average number of CPR based activities per poor rural household range from 3 to 6.

A general observation in Tamil Nadu gives us a clear understanding of the importance of CPRs for the survival of poor. Almost all poor household depend on CPRs for their fuel and fodder needs. Women's destitute and children mostly collect fodder and fuel from CPRs. In case of any difficulty in collecting these items from CPRs it affects these groups critically. Artisans and craftsmen depend on CPRs for their raw materials like fibre, timber, bamboo, clay, grass etc. Some of the common facilities like common grazing lands benefit not only the entire village but also certain specific sections like cattle rearing communities. Common chavadis, temples and buildings help people as common shelters in needy hours. Women to answer their natural calls depend some specifically reserved open air toilets. In villages people can collect house building

materials for the construction of their huts and houses. Sand, clay, granite, bamboo, grass, agricultural residues were some of the materials once freely available for the poor for construction of their dwellings.

Irrigation tank is the most important common property resources available in every village in Tamil Nadu. In a water starving state like Tamil Nadu, water harvesting is essential for the survival of the rural community. Tamil Nadu has wonderful tradition of tanks. The social systems of rain water harvesting in Ramnad district are still functioning. Tanks are useful for irrigation, ground water charging, forestry development, fisheries development etc. It is useful for the collection of fuel and fodder. Tank beds are used for cultivation by non land owning sections. Short terms crops like cucumber, pumpkin, greens etc. are cultivated in the tank beds. Forestry in tank beds and fisheries in tank water can generate lakh of rupees for the village. From tank fisheries alone some village communities gather more than five lakh rupees around Madurai. So it is very clear that efficient management of these resources at local level will bring prosperity to the local community.

Some of the Sections Mostly Affected by the Declines of CPRs

- (i) Women: Affected by scarcity of drinking water, non commercial fodder, fuel, grazing area, non commercial food items like greens, nuts, vegetables, fruits, tubers etc. (rearing of cattles as additional income become more difficult with the declines of grazing lands).
- (ii) Craftsmen: Affected by decline/scarcity/loss of raw materials like bamboo, grass, fibers, wood, clay, sand, minerals etc.
- (iii) Poor, specifically SC/ST Affected by decline/scarcity/loss of materials required for food, fuel, fodder, housing materials, grazing land etc.
- (iv) Marginal farmers: Affected by decline of ground water, neglect of irrigation systems, inability to maintain cattles depending on CPRs etc.

Needs for Institutional Arrangements for Management of Common Property Resources

Some models of management of common property resources at grassroots level are available. Generally they be classified as follows:

- (i) Traditional social systems of management.

- (ii) Participatory model promoted by non-governmental agencies and governmental agencies.
- (iii) Elected village panchayats.

Traditional social systems of CPR management in villages are common all over the country. In spite of modernization and state intervention some of traditional systems are still efficient and powerful. In certain areas, where resources are scarce, these systems operate efficiently. Irrigation systems are commonly managed by traditional arrangements. Even though these systems are efficient, generally they are not based on the principle of equity.

In recent times NGOs and government agencies are promoting participatory management of resources. Joint forestry management model under social forestry programme is widely promoted by government directly or through NGOs. Suknomajri model promoted in Chandigarh, Van Panchayath, in Uttar Pradesh and Pani Panchayath in Maharashtra are good examples of such ventures.

The traditional CPR systems are mostly run on caste considerations. Rich and powerful can easily manipulate the system for their benefit. Weaker sections like scheduled castes, scheduled tribes, women cannot participate in the management of CPR on equal terms with the higher caste people. The traditional system could not accommodate the aspirations of these sections.

The government or non-government agencies sponsored CPR management models may not be applicable for the entire country. These agencies have their own limitations and do not have the capacity to manage the resources throughout the country. Their activities are restricted only to certain pockets and certain types of resources.

Panchayati Raj is the only system available for CPR management all over the nation. The democratic structure of Panchayati Raj ensures people's participation to a great extent. It also ensures the participation of SC, ST and women in the decision making process in equal footing with other powerful groups in rural areas.

9.7 CPRS UNDER NEW PANCHAYATI RAJ SYSTEM

The 73rd Constitutional Amendment Act has included 29 subjects in 11th schedule (Article 243 G). The State Panchayat Acts have also certain responsibilities to Panchayati Raj institutions. Based on these acts, Panchayats can deal with following CPRs:

- a. Irrigation tanks
- b. Supply channels
- c. Water harvesting schemes
- d. Land development and soil conservation
- e. Fisheries development
- f. Minor forest development
- g. Social forestry and farm forestry
- h. Drinking water
- i. Fodder
- j. Fuel
- k. Non conventional energy resources
- l. Agricultural development
- m. Market places
- n. Grazing lands
- o. Thrashing grounds
- p. Cattle sheds
- q. Cart stands
- r. Tube Wells
- s. Environment Protection
- t. Community assets

The above mentioned CPRs are critical in rural areas. Activities of the village panchayats can be focused around these important CPRs. As per the new Panchayati Raj System, Village Panchayats have the responsibility of protecting, developing and making them available for the entire community based on the principle of equity. Common Property Resources are mostly uncared for in many villages in the absence of any political device available for people to participate in its management in a systematic manner. Creation of strong democratic structures through Panchayati Raj system paves way for people's participation in the management of CPRs.

Village Panchayats have enough power and resources not only to maintain the traditional CPRs like irrigation tanks unclassified forest, thrashing grounds but also modern CPRs like community shelters, public toilets, hand pumps etc. Large scale funding by the central and state governments can be judiciously used for the development, maintenance and repair of CPRs by Panchayats.

Some of the resources which are common for more than one village panchayats have to be jointly managed. Some of the bigger resources like irrigation channels, forests, roads, mines, river beds can be managed by District Panchayat or Mandal Panchayat.

Check Your Progress Exercise 2

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this U nit.

1. Who are all mostly affected due to decline of CPR?

9.8 GRAM SABHA AND COMMON PROPERTY RESOURCES

Gram Sabha in a village panchayat has a critical role to play in the management of common property resources under the control of the village panchayats. It provides an opportunity to the entire voting population of the village panchayat to sit together to discuss the problems affecting the village. As CPRs like, water, fire-wood, fodder and grazing land are the priority items in many villages. Gram Sabha will be a valuable devise for the villagers to decide issues on matter affecting their day-to-day life and survival. So there is a great scope for CPR to become the focal point for deliberation at Gramsabha meeting. Particularly women and other marginal sections like SC/ST will take CPRs as very sensitive issues. The scopes for micro level planning and participatory development have been increased with the introduction of the new panchayati raj system. In the new system from village to district level most of the development programmes will be under the control of the people's representatives. Even some of the progressive resource management programmes like land reforms are also included in the 11th schedule (243G) of the

constitution. In states like West Bengal, even tube wells used by farmers are under the control of the village panchayat as per the Panchayati Raj Act.

Gram Sabha ensures transparency in the activities of village panchayats. Open debates in front of the community increase the accountability of the leaders to the people. The already functioning traditional community meeting in villages makes us confident of the future of Gram Sabha. Once transparency and accountability are ensured, there is a great scope for the successful functioning of the village panchayat. So far people do not have any legal power devise to control the administration at the grassroots level. The constitutionally created Gram Sabha, first time provides people an opportunity to bring the affairs of village level administration under their direct control. A powerful element of direct democracy has been introduced at village level by the new system. In this changed system, there is great scope for participatory management of CPR on the principle of equity. Valuable resources like irrigation tank, ground water, forest lands, grazing lands, mineral resources etc. will be efficiently managed for sustainable use.

9.9 ROLE OF WOMEN PANCHAYAT PRESIDENTS IN CPR MANAGEMENT

The following case studies will provide insight on the role of Women Panchayat Presidents in CPR management.

Case Study 1--Clearing encroachment

Ms. Jamruth Devi, then president of Devipattinam village panchayat in Ramanathapuram district, Tamil Nadu took efforts to restore CPR in her panchayat area. There are about 12.5 acres of land meant for an orchard and in this area there is no fruit bearing tree except 69 palm trees. Three decades ago palm gur production was a good avocation for local people but, at present, there is no palm gur production on a regular basis. Most of the farmers leased out their own palm trees for the extraction of “*patheneer*” (a local drink prepared from palm milk). To establish an electrical sub-station, a piece of common land was given to the Electricity Board by the panchayats. Now, anticipating the proposed Cauvery water project, 0.5 acre of land belonging to the dhargah administration has been donated. For establishing a desalination plant two acres of

land has been donated. Under various categories like *oorani*(pond), *salai*(road), footpath and cart road, there is a list of *poramboke* (common land) handed over to panchayats. She wanted to restore all the lands and wanted to use in a proper manner. First she decided to restore water paths to increase the water table in her panchayat. In her panchayat there is 7 kilometre length and 100 metre breadth long canal (*poovodai*). With the help of all members of the panchayat she decided to restore the canal. With their cooperation, she made presentation in front of local State Minister and insisted the need for government help to remove the encroachment. The minister himself not sure about the capacity of panchayat to restore the big canal. She took it as challenge. With the help of district collector she got sanctioned 25 lakhs under SGSY scheme. She also collected money from local jamat and the saudhi association for this work. They contributed Rs. 75,000/- for this work. She removed all the encroachments with the help of people and the district administration. The canal now has been desilted and deepened. She also made seven small inner tanks.

Case Study 2-- Preserving water Sources

There are three small water tanks and four big water tanks in K.Rayavaram Panchayat in Pudukottai district in Tamil Nadu. Two tanks belong to Public Works Department (PWD) and two tanks belong to Panchayat Union. Under Social forestry scheme trees are planted and a watchman employed by the Panchayat. In the tanks areas, trees planted and taken care to grow properly. As they trees grown and they were more than three years old, the Panchayat Union decided to auction the trees and approached Revenue Divisional Officer. Some officials expected bride. But Women President of this Panchayat refused. With her intervention, there was open tender to auction the trees. This fetched good amount to Panchayat for implementing few development work. At the same time, she cleared the encroachment in inlet channels by handling issues very carefully.

Case 3 --Issue of Sand Quarrying

The riverbed of the Amaravathi is located within a half kilometer from Appipalayam in Karur district in Tamil Nadu. The river sand of the Amaravathi is of a higher quality than that of the Cauvery, it is said. Hence, Hundreds of cart loads of sands illegally quarried from the Amaravathi riverbed near Appipalayam Village. The wells for drinking water are constructed on the riverbed. The illegal sand mafia did not spare even these areas. Unmindful of the negative impact on the system of drinking water supply as well as the system of irrigation they continued their illegal quarrying of sand. The then Women president of this Panchayat met the other Panchayat President in this area for which the drinking water wells are constructed on the riverbed and explained the scope of the damage to the percolation due to the sand quarrying. She succeeded in convening the *gramsabhas* (village council meeting) in four village panchayats including Appipalayam and a resolution was passed demanding the intervention of district collector so that the illegal sand quarrying could be stopped at once. The Collector came to spot and inspected the damaged caused by illegal sand quarrying. The Public Works Department (PWD) officials informed that permission was given for quarrying only at Thalapatti Village which is far away from the wells of Appipalayam and so there won't be any problem. But, the Panchayat President said that though PWD officials restricted sand quarrying to a place, the selfish sand mafia never adhered to rules and regulations. Hence she and her villagers refuted PWD officials and pleaded with the Collector. When the Collector announced that at a depth of three- four feet, sand could not be taken, the villagers expressed shock saying that they would lie down before the vehicles and sacrifice their life instead of living as dead people without adequate source of water for drinking as well as irrigation. At last Collector agreed to stop all illegal sand quarrying and mining activities in the river bed of the Amaravathi near Appipalayam. The mass action became a success because of the determination and firmness of women leader.

(Above three case studies drawn from book written by G.Uma and others titled Change Makers at Grassroots Local Governance in Action)

9.10 ROLE OF CPR IN DISASTER PREVENTION- BIO SHIELD

This story is from the village of Thandavarayan Cholan Pettai, Chidambaram Taluk, Cuddalore District, Tamil Nadu. Bio shields like mangroves were grown in the village with support and guidance from the M.S. Swaminathan Research Foundation. This had completely protected the Panchayat from the killer waves of the Tsunami on 26th December 2004. Almost similar is the case of Madamedu, a costal village in Sirkali Taluk of Nagapattinam District. The impact of tsunami was very less compared to other places in this village because of the growth of casurina trees on the shores by the Tamil Nadu Forest Department. The stories do not end there. In Nallavedu village near Pondicherry, the M.S. Swaminathan Foundation has been running a Village Knowledge Centre having computers, early warning systems, internet connectivity through satellite, etc. Awareness and Warning System were placed at the centre of the village. Every time the Public Address System sounded on 26th December 2004, when the Tsunami struck the shores of Indonesia, Mr. Vijaya Kumar, a native of the village and the farmer volunteer at the Centre who was at that time working in Singapore heard the Tsunami news in Indonesia through Singapore TV. He telephoned the VKC of Nallavedu Village. The center immediately spread the news through the Public Address System. People were evacuated early enough to avert major destruction of life. The above case study clearly demonstrate that CPR can reduce impact of tsunami like waves. At the same time community participation is also important.

9.10 SUMMING UP

The national resource bases of this country cannot be sustainably developed without the participating of the masses through grassroots level action and the only devise available for such mass action is Panchayati Raj System. Unless the environment and resources are monitored, protected, developed and judiciously used at village level no macro level government programme at national level can save this country from starvation and decay. As Dr. M.S. Swaminathan says, “Business and industry by the large adopt a short term view with reference to the

exploitation of natural resources. Our life support systems are in distress and there is little political interest in making scientific land and water use mandatory. The emergence of Panchayati Raj and Nagarapalika Institutions may provide an opportunity for adopting a new land and water ethic, provide an opportunity for adopting a new land and water ethic, provide an opportunity for adopting a new land and water ethic, provided there is political will for their ecological empowerment". Gram Sabha has given an opportunity for the peoples to directly participate in the decision-making process and there is a great scope for the revival of the common property resource management through Gram Sabha. Non governmental agencies, activists and other public interest groups must motivate people to successfully use this opportunity to protect the CPR for their own benefit.

9.11 GLOSSARY

Panchayati Raj Institutions: The panchayati raj in India is a system of local self governance. It is the oldest system of local government in the Indian subcontinent. The word "panchayat" literally means "assembly" (ayat) of five (panch) wise and respected elders chosen and accepted by the local community. However, there are different forms of assemblies. Traditionally, these assemblies settled disputes between individuals and villages. Modern Indian government has decentralized several administrative functions to the local level, empowering elected gram panchayats. Gram panchayats are not to be confused with the unelected khap panchayats (or caste panchayats) found in some parts of Northern India.

9.12 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

1. Interest in the study of common property resources was started in west with the publication of a famous article in 'Nature' in the year 1968 by Garrent Hardin titled 'the tragedy of commons'. Hardin an environmental scientist of Darwinian and Adam Smithian school strongly argued for the privatization of common natural resources held by the state to save them from environmental degradation or 'the tragedy of common'. Number of studies emerged in support or against the theory of Hardin all over the world. Living models of management of common resources by the traditional system came in to time light as an alternative to Hardin's model. Models of community management of

resources are found even in Western cultures and in countries like Canada and U.S.A. As a result powerful theories are formulated to highlight the concept meaning and importance of common property resources. Now, common property resources are considered as one of the essential and the most fundamental requirements for the survival of our planet. Even though there are number of definitions for CPR it is very difficult to give one single definition acceptable for all. One possible definition of common property resources is “resources accessible to the whole community to which no individual has exclusive property rights”. “Common property resources are the resources managed by community organizations (traditional, modern or elected) for the use of the members of community under certain rules, regulations and restrictions. Common properties are not ‘no one’s property’ or state property or private property. Modern Western legal systems can generally understand only two types of property regimes, private property and state property. But in practice a large portion of resources in the traditional societies are still managed by community systems even through these resources may be legally owned by the state. Villages in India are still rich in common property resources even though they are being eroded very fast. Some of the resources are village tanks, fisheries, grazing lands, thrashing lands, *parombok* lands (Common Lands), footpaths etc. All these resources are owned by government. But the local communities play the most critical role in the protection and use of these resources. In other words, state, however it may be powerful or efficient, is not fit for management of certain resources spread over the country without the active imitative involvement and participation of local community. Certain resources can only efficiently managed by the local community and no outside agency can manage such resources as efficiently as local. Certain resources and communities are totally inter-dependent and one cannot survive without the other. So there is need for institutional arrangements to transform the theory of CPR in to a reality. These institutional arrangements can link peoples and resources, translating interests into claims, claims into rights. In short common property regimes are forms of management grounded in a seat of accepted social norms and rules for the sustainable inter-dependent use of collective goods such as forests, grazing grounds fisheries and water resources etc.

Check Your Progress Exercise 2

1. Some of the Sections Mostly Affected by the Declines of CPRs

Women: Affected by scarcity of drinking water, non commercial fodder, fuel, grazing area, non commercial food items like greens, nuts, vegetables, fruits, tubers etc. (rearing of cattles as additional income become more difficult with the declines of grazing lands).

Craftsmen: Affected by decline/scarcity/loss of raw materials like bamboo, grass, fibers, wood, clay, sand, minerals etc.

Poor, specifically SC/ST Affected by decline/scarcity/loss of materials required for food, fuel, fodder, housing materials, grazing land etc.

Marginal farmers: Affected by decline of ground water, neglect of irrigation systems, inability to maintain cattles depending on CPRs etc.

9.13 REFERENCES

1. Hardin, Garrent and Jhon Baclen (Eds.), *Managing the Common*, W.H. Freeman and Company, New York, 1977, pp. 17-29.
2. Firkert Berkes (Ed), *Common Property Resources*, Dehradun, International Book Distributors, 1991.
3. N.S. Jodh, "Common Property Resources and Rural Poor in Dry Regions of India", *Economic and Political Weekly*, Bombay, XXX,27, 5th July 1986, pp 1169-81
4. Kanchan Chopra, Gopal K. Kadekodi, M.N. Murthy (Eds.) *Participatory Development, People and Common Property Resources*, New Delhi, Sage, 1990, pp. 23-25
5. Rural off Farm Common Property, Business Line, Madras, December 26, 1994, P.14
6. Firkeret Berkes (Ed.), *Common Property Resources*, Dehradun; Internatinal Book Distributors, 1991, pp 21-29
7. Marx, Engels, *The First Indian War of Independence 1857-58*, Moscow: Progessive Publishers, 1988, p.15
8. Cited in A.R. Desai, *Social Basis of Indian Nationalism*, Popular Prakashan, Bomaby, 1982, p.13
9. Business Line, op.cit.
10. Ibid
11. Ibid
12. Kanchan Chopra (Ed.), op. cit., p.34

13. Ibid
14. Ibid
15. See Ibid. p.11, p.19
16. See Ibid p.20
17. Ibid
18. See 73rd Constitutional Amendment Act 1993 and various state Panchayat Act.
19. Ibid
20. Dr. M.S. Swaminathan, "Population and Food: A crisis on the Horizon, Survey of the Environment, The Hindu, Madras, 1994, p.9.
21. G.Palanithurai et.al, *Change Makers at Grassroots Local Governance in Action*, New Delhi: concept Publications, 2008.

9.14 QUESTIONS FOR REFLECTION AND PRACTICE

1. What are the constitutional provisions given in the 73rd constitutional Amendment Act to safe guard Common property Resources?
2. Discuss the role of panchayats in safe guarding Common property Resources with suitable examples.