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## **UNIT 1: ROLE OF WOMEN IN AGRICULTURE**

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- 1.2 Objectives
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### **1.1 INTRODUCTION**

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***“In order to awaken the people, it is the woman who has to be awakened. Once she is on the move, the family moves, the village moves, the nation moves.”***

**(Pandit Jawaharlal Nehru)**

Women are an integral part of agricultural production systems in India and considered the backbone of agricultural workforce. The key roles that the women play in agricultural development and their contributions in the field of agriculture and allied sectors, food and nutritional security are now greatly realized. Besides, women, comprising of the majority of agricultural labourers, are also putting their efforts not only in terms of physical output but in terms of quality and efficiency in improving the overall agricultural production system. However, though agricultural technology is gender neutral, it is not resource-neutral implying socio-economic considerations in technology generation and transfer. Many a times the role of

women as producer of goods has been underestimated and has been considered as playing a supplementary role rather than the main role. This mystification has to be changed and the society needs to treat the women as agents of change.

In this Unit, the status of women in labor market, their role and contribution to agriculture, obstacles in the growth and certain schemes promoted by the Government and other agencies to empower them in the field of agriculture are discussed. This unit also brings to light and instills a sense of confidence among women in a male dominated society and their worth in the society.

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## **1.2 OBJECTIVES**

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After studying this Unit, you would be able to

- discuss the women's contribution in agriculture;
- explain the role played by the women in agriculture; and
- examine the work participation rate (WPR).

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## **1.3 GENDER ROLES**

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Gender roles are the roles played by the men and women in both public and private spheres.

Women's role in agriculture related and allied activities well documented by the researchers.

Women are responsible for the half of the world's food production. They contribute from preparing land for cultivation to crop harvesting, livestock rearing, home gardening, fuel and fodder collection and the collection of minor forest produce for the livelihood and food security.

In South East Asia, Women contribute 90 percent of their labour for rice cultivation. In Thailand women are extensively engaged in agriculture as they carry out about 50 percent of the work involved in field crop cultivation, horticulture, plant protection, harvesting, and almost 80 percent in soil improvement about 90 percent of the work in inland fishing and almost all the work in food preservation and food processing, as well as in mulberry tree cultivation and silk worm raising.

Women's knowledge on agriculture and food production is vast. As we can see in this Unit, women contribute range of activities in agriculture. As we have seen in course MGS-001, the discipline of Gender and Development Studies clearly defined the gender roles. Because of role differentiation in the society by men and women, their needs are also differs. Integrating needs of the men and women in the planning, policies and programme are important. (Gopalan A and

S.N. Saha, Gender in Agriculture Developed under AP CESS Research Scheme, Hyderabad: National Academy of Agricultural Research Management, August, 2003)

The following case study will give you the overall picture of women's contribution in productive and reproductive work

**Box 1 Let the spirits soar high**

Aravind is a daily wage earner in Shahjahanpur, and has his wife and four children to look after. To supplement his meager income, he occasionally sells vegetables in the open market after procuring from the mandi. Recently, he planted potatoes on his 2 bighas of land. Everything seemed to be in order till he fell ill a couple of months ago. The onus of running the household fell on his wife, Sukhdevi. Her workload increased manifold. From daily chores to tending a patient at home, from feeding children to working in the field, the list of diverse work she performs during the day is back-breaking and exhausting. Rather than give up, she took the challenge in her stride. Taking advice from her ailing husband, she will get the desired work done at the farm with the help of hired labour.

Adopted from Khandelwal, ashok and shipra Deo, 2013

**1.4 WOMEN LABOUR**

As per census 2011, India's population is estimated at 1.21 billion. The distribution of country's population in rural and urban areas was found to be 833.5 and 177.1 million respectively. Thus, the census in 2011 reflected an increase of 181.96 million persons over the population in 2001 census. Out of these 181.96 million persons added to the population in 2001, the increase in male population was 90.97 million as against 90.99 million in female population. This implies an overall growth rate of female population (18.3 per cent) which is higher than males (17.1 per cent). Subsequently, the sex ratio had also slightly improved in 2011 (i.e. from 933 to 943) compared to 2001 census. While there has been an appreciable gain in the overall sex ratio, the decline in child sex ratio (0-6 years) by 13 points from 927 in 2001 to 914 in 2011 is a matter of serious concern.

Such recent changes in the population dynamics are very important to appreciate the role of women. Women within the family combine and play an indispensable role in agriculture and

become more responsible in improving the quality of life especially in rural areas. However, their contributions often remain concealed and need to be properly exposed.

During the census 2011, few additional details are also made available in the dimensions related to spread of workers in the total population in rural and urban areas (Table 1).

**Table 1.1 Number of workers in India (Census 2011)**

*(million)*

Worker Category	No. of workers	Non- workers	Total	WPR (%)
Rural	348.6 (72.37)	484.9 (66.53)	833.5 (68.86)	41.8
Urban	133.1 (27.63)	243.9 (33.47)	377.0 (31.14)	35.3
Total	481.7 (100.00)	728.8 (100.00)	1210.5 (100.00)	39.8

Source: Census of India

Note: WPR - Work Participation rate is the number of workers per 100 populations

Out of the total population of 1210 million persons, the rural population was 833.5 million (68.86 per cent) and the remaining 377 million persons (31.14 per cent) live in urban areas. Thus, almost two-third of population is still found in rural areas. Among the total workers of 481.7 million, the number of workers in rural areas was about 348 million (72.37 per cent) and the remaining 133 million workers (27.63 per cent) were in urban areas. The work participation rate was about 42 per cent in rural areas as against only 35.3 per cent in urban areas.

The details of work participation rate between men and women (Table 2) would indicate that the work participation was higher in case of men compared to women and comparatively, the participation rate has declined among women in 2011 against 2011 census period.

**Table 1.2 Work Participation Rate (%) between male and female population**

Sex	2001 census	2011 census	% change
Male	51.7	53.3	+1.6
Female	25.6	25.5	-0.1
Total Workers	39.1	39.8	+0.7

Source: Census of India

The above changes must be interpreted very carefully. Given a rise in population of women in the country, there is slight decline in the work participation rate and that decline is only because of reduction in marginal workers. The details could be well understood by looking also Table 3.1 below.

**Table 1.3 Type of workers in India and their percentage share**

Worker Category	2001	2011	% change
<b>Main Workers</b>			
Total	77.8	75.2	-2.6
Male	87.3	82.3	-5.0
Female	57.3	59.6	2.3
<b>Marginal Workers</b>			
Total	22.2	24.8	2.6
Male	12.7	17.7	5.0
Female	42.7	40.4	-2.3

Source: Census of India

In terms of workers, the work force is further classified as main workers<sup>1</sup> and marginal workers<sup>2</sup>. Among the women population, as per 2011 census, women-main workers constituted about 60 per cent and the remaining 40 per cent were classified as marginal workers. Comparing the year 2011 census data with 2001 data, there is 2.3 per cent increase in women-main workers and the men main workers on the contrary showed 5 per cent decline. Thus women are gradually being recognized as main workers, which is a good sign of development.

1 Main Worker: Persons who 'worked' for 6 months or more during the reference year

2 Marginal Worker: Persons who 'worked' for less than 6 months

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## **1.5 ROLE OF WOMEN IN AGRICULTURE**

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Agriculture in India still plays a primary role in ensuring food and livelihood security and sustainable economic development. This sector provides both direct and indirect employment opportunities. The sector is now however confronted with many challenges like degradation of natural resources, inadequate availability of labour particularly during peak agricultural operations, vulnerability to erratic monsoons leading to unemployment and severe pressure on land owing to increasing population and consequent demand for higher levels of food production. Besides, the contribution of agriculture to the Gross Domestic Product (GDP) at constant price declined to 14.1 per cent (2012-13) from 53.71 per cent during 1950's (Government of India, 2012). Despite, these unfavourable developments, this sector still provides livelihood to majority of population. In terms of sectoral shares in employment, agriculture share in employment declined from 59.9 per cent at the beginning of decade to 53.2 per cent at the end of the decade. However, this figure is still very high compared with the share of agriculture in other countries in the region.

Growth in agriculture, vis-à-vis in crops, depends on expansion of area and increased productivity of cultivable land through technological interventions. Considering the various limitations in expansion of available cultivable area, the long term growth in agriculture is possible only through practicing more self-sustained technologies, not jeopardizing the strength in the country. Such progress is unfortunately seen with more replacement of labour especially men.

The work activities of women in rural areas revolve around land and other resources. In addition to this, every family household requires to perform minimum household activities (chores), mostly undertaken by the women in the family. In any rural household, the agricultural activity is thus considered the most important because it fetches direct monetary benefits to the family besides creating employment. In majority of the agricultural households, the agricultural production depends entirely on the use of family labor, predominantly women. In many of the rural households, women are also considered in the decision-making process towards harvesting of crops, purchase and sale of animals, choice of crop in specific land and even construction of farm buildings.

Among the various cultivation operations, field operations like sowing or transplanting, weeding, harvesting etc. involve engagement more number of women labourers. For instance, the engagement of women agricultural labour in rice production activities has been found high in transplanting, weeding and harvesting.

We will elaborately look in to women's contribution in Production process. Pre-sowing activities consists of land preparation, preparation of compost and farm yard manure, seed selection, seed preparation, seed management, seed sowing, nursery preparation, sowing seeds in nursery, nursery maintenance, transplanting seedlings from nursery to main farm, fertilizer application. If we look in to all these activities of pre-sowing, women contribute most of the activities, except ploughing of lands. Once the pre-sowing activities are over, women's contribution to post sowing activities like weeding, scaring of birds, preparation of manure, hybridation of cotton and sunflower and handpicking of worms and insects are also done by the women.

By looking at the above activities one can easily come to the conclusion that female labour in agriculture is very significant than male labour. Not only in pre-sowing and post sowing periods, female labour activities are intense during harvest also. It starts with harvesting crop. After harvesting the crop, women carry the bundles of harvested crops to thrashing floor. In the post harvest process, women contribute numerous activities to make the harvested crop in to final one. It comprises preparation of thrashing floor, hand threshing, threshing with machine, winnowing, grading, processing and vending of agricultural commodities, care of storage structure, separating seeds, drying and clearing of produce, treating seeds and grains.

#### **Box 1 Case study 1**

Women from State of Kerala developed indigenous methods of selecting and preserving seeds for sowing next season. From the harvested grains they set apart the required quantity of seed material that will be sufficient for next seasons' planting of sowing. The grains are cleaned carefully by winnowing. During winnowing process, the off-colour, under sized and chaffy grains are segregated and removed. The selected grains are sundried for two or three days. Once they are convinced that the moisture content has reduced to sufficient level in the grains, they store them as seeds in mud container. A few women also select their seeds by collecting healthy ear heads. For example, Ragi ear heads with well- formed grains are selected during the harvest

and kept aside as seed materials for subsequent seasons' planting. Women have devised simple and scientific methods for seed preservation for sowing next seasons. For almost all foods grains whether cereals or minor millets, the selection and preservation methods are similar. Only Dolichus SPP and red gram are coated with red clay and dried under the hot sun for two three days. The red clay, according to the women, act as pest repellent. The seeds of all grains are under the sun once in a while on a full moon day. The confidentially say that the seed viability will not be affected even for two years if they are well dried and kept in airtight containers. The seeds of the vegetables are mixed with burnt ash and then sun dried. Fruits of few vegetables are left on the plant itself to get fully ripened. Certain vegetable seeds are kept on the rooftops to dry the seeds. Women also grow vegetables in small piece of lanes for household consumption. Seeds are considered as sacred. The seeds are generally kept in the attic of house where gods and goddess pictures are kept. Women do not touch the seeds during menstruation.

Ref Gopalan A and S.N. Saha, Gender in Agriculture Developed under AP CESS Research Scheme, Hyderabad: National Academy of Agricultural Research Management, Augsut, 2003

### **Box 2 Voices from the field**

1. Land (like other productive assets) is an opportunity for change. It is a way to have access to other resources, such as water, seeds, new technologies and bank loans.
2. When we earn our own money, we are less frightened of arguing with our husbands, on spending decisions.
3. If our husbands want us to eat, then we eat, it totally depends on them. If the land were in my name, he would no longer beat me, and he would take care of the children as well.

Source: ILC and IFAD, 2004 and Khandelwal, ashok and shipra Deo, 2013

## **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 gender roles.

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2. Analyze the Work Participation Rate of men and women according to Census 2011.
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### **1.5 OBSTACLES IN WOMEN GROWTH AND EMPOWERMENT**

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One of the means of reducing drudgery in agricultural operation is to mechanize. Castillo (1977)<sup>3</sup> argued that even such mechanization is favoring operations performed mainly by men while the other operations were still operated by women manually. This adds the burden to women labour while they work both on-farm and off-farm. Much of the technological advancements had created more employment for men and even displaced female labour in agriculture. Moreover, the structural changes in the cropping pattern for instance i.e. from food crops to cash crops and use of mechanized inputs in farms have resulted withdrawal of female agricultural labour force and have created employment structure more biased towards male labour force. Besides, studies have shown that the female labour absorption capacity of crops has significantly declined due to a shift in cropping pattern i.e. from paddy to coconut or rubber in states like Kerala. It is found that the shift in one acre of paddy to coconut could result in a decline in female employment by 43 human days.

One of the major obstacles faced by farm-women is also lack of improvised knowledge on farming.

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### **1.6 MORE WORK LESS PAY OR NO PAY**

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Women are almost half of the adult population. They constitute one-third of the labour force but consume two-thirds of the world's working hours and yet earn only one tenth of the income and own only one per cent of world property (United Nations, 1975)<sup>4</sup>

Female hourly wage rates in agriculture vary from 50 per cent to 75 per cent of male rates, and are insufficient to overcome absolute poverty (Planning Commission). Most of the works performed by women in agriculture on family enterprises are unpaid work. Though the

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3 Castillo, C.T (1977), The Changing role of women in rural societies: A summary of trends and issues, Seminar report No.12, Agricultural development Council, New York

4 United Nations (1975), World conference of the United Nations Decade for Women: Equality, Development and Peace Document A/CONF.94/19. Nairobi, Kenya.

work participation rate is an important measure to assess the gaps and to verify whether it has narrowed down between genders, the remuneration and advancement gap between male and female workers still exist and always the women workers are the losers.

In various estimates on cost of cultivation of agricultural crops, both men and women labour wages (often disparity persists in wage rate) were considered and man equivalent is estimated based on the wage rate. In such estimates, since the wage rate paid for women, for equal hours of work is less than men, one man day is equated with one-half times the work of women. In order to remove such disparity, the hours of work has to be considered while fixing the wages irrespective of the gender.

### **1.7 WOMEN AND AGRO BIODIVERSITY CONSERVATION**

The concept of bio diversity vis-à-vis agro-biodiversity is not new. Agro-biodiversity encompasses the variety and variability of animals, plants and micro-organisms that are necessary for sustaining key functions of the agro-ecosystem, including its structure and processes for, and in support of, food production and food security (FAO, 1999). Loss of agro-bio diversity is often portrayed mainly as environmental problem rather than social, political and economic reasons. Moreover among the various reasons, human activity plays a significant role as it can shape, conserve and protect the diversity. A farm in Indian situation earlier was a mix of many diversified enterprises along with crop. This traditional agricultural practice and production environment could achieve some type of balance in terms of land utilization, man power usage, soil health retention, risk bearing etc. However, modern agriculture, owing to intensive, mono cropping and specialized crop cultivation, much of these farm diversities have been lost. For instance, looking at macro level, among the selection of food grain crops, domination of major cereal crops in the cropping pattern could be seen at the loss of crops like jowar, bajra etc. (Table 1).

**Table 1.5 Change in Cropping Pattern Index**

**Base 1965-66=100**

	Early Green Revolution (1966-67)	Green Revolution (1986-87)	Post – Green Revolution (2010-11)
Rice	98.07	102.17	96.99
Wheat	100.80	161.97	188.08

Jowar	100.74	79.41	32.26
Maize	104.23	108.56	142.95
Bajra	100.90	82.87	63.68
Other cereals	97.08	58.74	21.77
Pulses	96.07	89.73	93.49
Food grains	98.85	97.28	88.30

Source: Own estimation from secondary data

Taken 1965-66 as base year, cropping pattern index was estimated in three time periods namely early green revolution, green revolution and post-green revolution. Among the cereal crops, the area index under wheat (100.80 to 188.08) and maize (104.23 to 142.95) had increased and the traditional food grain crops like jowar, bajra and other minor cereals have lost their area. The overall shift in area towards non-food grains is also observed, as the overall food grain index moved from 99 in 1966-67 to 88.30 in 2010-11. The above changes have some serious implications as there exist a possibility of losing crop diversity. This could also lead to monoculture and dominance of only a few cereal crops and even genetic erosion of land races (or loss of agro biodiversity) of few traditional crops (Nautiyal and Kaechele, 2006; and Maikhuri, *et.al.*, 1997). Moreover, cultivation of traditional crops and land races require a clear understanding of the socio-economic characteristics of farmers (Prakash *et.al.*, 2004). Sometimes, payment for agro biodiversity conservation services (PACS) may be essential as market-based instruments that can increase the private benefits (Narloch *et.al.*). Collective action institutions are very important for technology transfer in agriculture and natural resource management among small holders and resource dependent communities (Mahendra Dev, 2012).

Another aspect in biodiversity is the management of insects, especially beneficial insects in agriculture. Many insect species are becoming extinct because of habitat loss, injudicious application of pesticides and climate change (Murugan, 2006). Biodiversity including that of insects should be preserved or even enhanced for its own sake and ecological services like natural control of crop pests (Noordijk *et.al.*, 2007). In a study conducted between mixed farming and sole crop farming in food production, the mixed crop cultivation showed a greater species-richness in terms of birds and insects. Mixed cropping also proved economically,

environmentally and ecologically sound than sole cropping to the farmers and facilitated sustainable crop yield (Raghavendra *et. al.*, 2010).

### **1.8 CAFETERIA FOR WOMEN IN AGRICULTURE**

Mainstreaming gender is an important component of the Policy Framework for Agricultural Extension (PFAE) developed by the Ministry of Agriculture, Government of India.

The Centre developed a cafeteria for the Ministry of Agriculture for offering it to states to guide the development of new programmes for women in agriculture.

New Programmes for women in agriculture should be developed based on the following key principles identified in the cafeteria.

- New programmes that are proposed should expand their definition of agriculture beyond crop production and should be based on site specific needs assessments.
- New projects that are proposed should build on groups, networks, organizational capacity and resources already in place and functioning from existing project initiatives and should take on and build on lessons from existing projects.
- Apart from extending agricultural technologies on production and post harvest to women farmers, new programmes should concentrate their efforts in providing crucial back-up services and support (backward and forward linkages) to help women groups to successfully adopt new techniques, crops and enterprises to increase their incomes and employment opportunities.
- New programmes should be planned with adequate resources for mobilizing women, forming groups, improving capacity and capability in technical, organizational and commercial (business/micro-enterprises) sectors and support systems (credit, raw material and markets).
- These should be prepared jointly in consultations with other organizations (public, private and voluntary) that can potentially complement and supplement the efforts of the state Department of Agriculture.

**The following technological options are also available for women to reduce drudgery**

#### **Technological Option for farm women**

<b>Operation</b>	<b>Traditional Technology</b>	<b>Improved Technology</b>
Field Preparations	Desi plough, single tine kudal, khurpi, spade etc.,	Tractor, Power tiller, rack, power-operated leveler etc.,

Sowing in upland rice	Broadcast sowing, hand dropping of seeds behind the plough	Pora sowing Animal or power operated seed drill Use of transplanter
Transplanting Manuring	Pushing seedlings in mud Head loading of farm yard manure in hilly areas	Direct sowing Use fully decomposed, farm yard manure, Incorporating legumes in crop rotation
Fertilizer application weeding	Manual broadcast Manual by khurpi or kudal	Use of fertilizer drill Use of herbicides Use of improved tools like rotary weeder and wheel hoes
Plant-protection	Spraying/dusting	Use of granular chemicals Mixing of chemicals with sand or urea Use of resistant varieties Use of improved duster or motorized sprayer Low volume sprayer
Harvesting	Use of local sickle	Mechanical harvester like reaper Use of improved serrated sickle
Threshing	Manual operation by hitting the bundle against any hard surface are trampling under the feet of human beings in rice crops	Use of thresher either power or manually operated Maize and sunflower shelter Ground nut decorticator
Winnowing	Under naturally blowing winds	Use of power or manually operated winnower
Seed treatment	Hand mixing	Manually operated seed treatment drums

Fodder fuel collection	Manually from distant places	Growing fodder crops in crop rotations Use of dual purpose varieties for grain, fodder and fuel Adopting social forestry
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Ref Gopalan A and S.N. Saha, **Gender in Agriculture Developed under AP CESS Research Scheme, Hyderabad: National Academy of Agricultural Research Management, August, 2003**

## 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. Discuss the efforts of government for mainstreaming agriculture

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### 1.9 SUMMING UP

The importance and need for management of human resources in agricultural development has been well recognized in almost all the agriculture dominant countries. Such awareness has made possible to bring prominence of the role of women in increasing food production and improvement of rural households.

### 1.10 GLOSSARY

**Mono cropping:** Monocropping is refers to the practice of growing only one type of agriculture product in a large area of and, year after year. In industrial crop production, monocropping is used to facilitate planting and harvesting across large pieces of land ( as well as the application of pesticides and fertilizers), often using specialized farm equipment. These techniques reduce the amount of human labour required for production, which drives down industrial crop process by

eliminating labour costs. However, monocropping ultimately imposes additional costs on society (e.g. environmental damage and human health threats). Monocropping became prevalent in industrialized countries in the 1940s and 1950s, as farming became more commodity-based and less subsistence –based, and as smaller family farms were consolidated into larger, industrial operations.

**Crop Rotation:** It is the successive cultivation of different crops in a specified order on the same fields, in contrast to a one-crop system or to haphazard crop successions.

Throughout human history, wherever food crops have been produced, some kind of rotation cropping appears to have been practiced. One system in central Africa employs a 36-year rotation; a single crop of finger millet is produced after a 35-year growth of woody shrubs and trees has been cut and burned. In the major food-producing regions of the world, various rotations of much shorter length are widely used. Some of them are designed for the highest immediate returns, without much regard for the continuing usefulness of the basic resources. Others are planned for high continuing returns with protected resources. The underlying principles for planning effective cropping systems began to emerge in the middle years of the 19th century.

**Bio-diversity:** Biological diversity or biodiversity refers to the variety and variability of life on earth. Bio-diversity is expressed at three levels on earth; genetic diversity; species diversity and eco system diversity. Its direct and indirect services are crucial for the sustenance of life on this planet. Bio diversity ensures food, fuel, shelter, medicines and other resources, which are vital for our survival. Most of the crops pests are controlled by a variety of other organisms, including insects, birds and fungi; which are certainly superior natural pesticides than their chemical equivalents. The pesticides which are extensively used are really harmful to human beings

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## 1.11 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

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### Check Your Progress Exercise 1

1. Gender roles are the roles played by the men and women in both public and private spheres. Women's role in agriculture related and allied activities well documented by the researchers. Women are responsible for the half of the world's food production. They contribute from preparing land for cultivation to crop harvesting, livestock rearing, home gardening, fuel and fodder collection and the collection of minor forest produce for the

livelihood and food security. In South East Asia, Women contribute 90 percent of their labour for rice cultivation. In Thailand women are extensively engaged in agriculture as they carry out about 50 percent of the work involved in field crop cultivation, horticulture, plant protection, harvesting, and almost 80 percent in soil improvement about 90 percent of the work in inland fishing and almost all the work in food preservation and food processing, as well as in mulberry tree cultivation and silk worm raising. Women's knowledge on agriculture and food production is vast. As we can see in this Unit, women contribute range of activities in agriculture. As we have seen in course MGS-001, the discipline of Gender and Development Studies clearly defined the gender roles. Because of role differentiation in the society by men and women, their needs are also differs. Integrating needs of the men and women in the planning, policies and programme are important.

2. In terms of workers, the work force is further classified as main workers and marginal workers. Among the women population, as per 2011 census, women-main workers constituted about 60 per cent and the remaining 40 per cent were classified as marginal workers. Comparing the year 2011 census data with 2001 data, there is 2.3 per cent increase in women-main workers and the men main workers on the contrary showed 5 per cent decline. Thus women are gradually being recognized as main workers, which is a good sign of development.

#### **Check Your Progress Exercise 2**

- Mainstreaming gender is an important component of the Policy Framework for Agricultural Extension (PFAE) developed by the Ministry of Agriculture, Government of India.

The Centre developed a cafeteria for the Ministry of Agriculture for offering it to states to guide the development of new programmes for women in agriculture.

- New Programmes for women in agriculture should be developed based on the following key principles identified in the cafeteria.
- New programmes that are proposed should expand their definition of agriculture beyond crop production and should be based on site specific needs assessments.

- New projects that are proposed should build on groups, networks, organizational capacity and resources already in place and functioning from existing project initiatives and should take on and build on lessons from existing projects.
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- These should be prepared jointly in consultations with other organizations (public, private and voluntary) that can potentially complement and supplement the efforts of the state Department of Agriculture.

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### 1.13 QUESTIONS FOR REFELCTION AND PRACTICE

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1. Describe how women as laborers contribute to agricultural development
2. Explain how women play a multi-dimensional role
3. What is empowerment?. How this helps in overcoming the obstacles in women growth?
4. Why there exists disparity in wage rates between men and women? What suggestions you would make to remove such disparities?
5. Explain how the policy framework should be designed to address the overall issues in gender disparity?

**Table 1 Number of workers in India (Census 2011)**

(million)

Worker Category	No. of workers	Non- workers	Total	WPR (%)
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Rural	348.6 (72.37)	484.9 (66.53)	833.5 (68.86)	41.8
Urban	133.1 (27.63)	243.9 (33.47)	377.0 (31.14)	35.3
Total	481.7 (100.00)	728.8 (100.00)	1210.5 (100.00)	39.8

Source: Census Report, Government of India

Note: WPR - Work Participation rate

**Table 2 Work Participation Rate (%) between male and female population**

Sex	2001 census	2011 census	% change
Male	51.7	53.3	+1.6
Female	25.6	25.5	-0.1
Total Workers	39.1	39.8	+0.7

Source: Census Report, Government of India

**Table 3 Type of workers in India and their percentage share**

Worker Category	2001	2011	% change
<b>Main Workers</b>			
Total	77.8	75.2	-2.6
Male	87.3	82.3	-5.0
Female	57.3	59.6	2.3
<b>Marginal Workers</b>			
Total	22.2	24.8	2.6
Male	12.7	17.7	5.0
Female	42.7	40.4	-2.3

Source: Census Report, Government of India

**Table 4. Change in Cropping Pattern Index**

**Base 1965-66=100**

	Early Green Revolution (1966-67)	Green Revolution (1986-87)	Post – Green Revolution (2010-11)

Rice	98.07	102.17	96.99
Wheat	100.80	161.97	188.08
Jowar	100.74	79.41	32.26
Maize	104.23	108.56	142.95
Bajra	100.90	82.87	63.68
Other cereals	97.08	58.74	21.77
Pulses	96.07	89.73	93.49
Food grains	98.85	97.28	88.30

Source: Own estimation from secondary data