

# Women in Agriculture



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# Chapter – 1

## Introduction

*“Women is the builder and moulder of nation’s destiny. Though delicate and soft as lily, she has heart, far stronger and bolder than of man... she is supreme inspiration of man’s onward march”*

*-Rabindranath Tagore.*

In the history of human civilization, the advent of agriculture was the beginning of settled life. With the settlement of erstwhile nomadic people, the relationship of family, kinship and community crystallised, and women assumed special role in the family. They made significant contribution in settled agriculture. Thus, beginning of agriculture had a special significance in defining and determining the role and status of women throughout the world.

In all the communities of the world, women do not function merely as human incubators. They share the duties and responsibilities of maintaining their families on more than equal term with their men-folk but because of low visibility of their contributions; they are not regarded as equal partners in development process in spite of legal and constitutional equality.

In our society, where economic power rests with men, convention decreed that woman's place be in the home and that her husband's words are the law. Social customs and marriage-vows bound her to a life of drudgery of meek submission of housekeeping and child bearing and childcare. Her household duties required between twelve to sixteen hours of work daily. She had very little time or opportunity for amusement, relaxation, or recreation - certainly none for a career of her own or for any hobbies or avocation worthy of mention. It is contended that she is borne for marriage and her interest in work or studies or her participation in social welfare will lead her to disturb her equilibrium in harmful ways.

Women are the cultural victims in our society, which provides superiority to men and institutionalizes deprivation to women. Had they been given the same

opportunities as enjoyed by their men-folk, the progress and prosperity of the nation would have been manifold, but the traditional attitudes of both men and women and the values regarding rights and responsibilities confined women to the role of mothers and homemakers.

Women carry out bulk of the work in agricultural production, particularly in hilly areas. Women do around 50-60 per cent of all field work, and most of the post-harvest and processing tasks are solely their responsibility. There is, however, strict gender division of labour in agricultural work. Men perform all operations involving machinery and draught animals. Thus, men are responsible for all ploughing, harrowing and leveling for irrigation using bullock bailing, spraying, and for threshing where animals are used. All activities involving direct manual labour are essentially assigned to women. These include sowing, transplanting and weeding. Women also play an important role in harvesting and processing work, which has not been mechanised. This particularly applies to harvesting, threshing, winnowing, dehusking, and grinding of millets. Rice, on the other hand, is now mostly dehusked by rice mills. Women are also heavily involved in animal husbandry. Whilst the care of draught animals tends to be the man's responsibility, looking after milch animals, sheep, goats and poultry are the woman's preserve. In this connection, women are involved in collection of fodder from forests and other communal areas. Collecting fuel-wood from forests for use in the kitchen and fetching drinking water in rural areas are the responsibility of young women. While the above tasks are by and large the responsibilities of women, sometimes men also perform them. In such cases, women are paid less for equivalent tasks they perform.

As the prosperity and growth of any nation depend on the status and development of its women because they are the foundation stone of the family in particular and society in general, the traditional attitudes which deprived women of opportunities outside their home have to be changed.

### **Status of the women**

Our first Prime Minister Shri Jawaharlal Nehru once said, "You can tell the condition of a nation by looking at the status of women". So, we can say that growth and prosperity of any country can be measured by the status and development of its women. Almost half of the human resource of the world constitutes women and that is why they influence the growth of nation's economy. In the words of famous agricultural scientist Swaminathan, "some historians believe that it was woman 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”.

Among the developing countries, in the present situation the status of women, their limited access to research and extension services in agriculture is extremely needed to restore the overall approach towards women farmers to provide them the existing needs. Most of the research and extension systems are men oriented and the objective of these programs are to attain certain targets but do not analyze the needs of farm women (Santra and Kundu, 2001).

The work activities of women and men in a rural environment resolve around land and other such resources which are either agriculture-based or related to agriculture such as animal husbandry. In addition to these activities every household requires the performance of a minimum amount of housework for carrying on its day to day activities. The household constitutes a basic unit of production in all such societies where agricultural production depends almost entirely on the use of family labour. In a peasant household, agricultural activity is considered the most important because it fetches a direct monetary reward for the household. The activities associated with agriculture such as the care of livestock are considered of secondary importance since they fetch only some additional capital for the household but are not the chief providers. A third area of work housework is an activity where the labour of the individuals is not paid for if it is performed for one's own family and is said to have use value rather than exchange value. It is quite often seen that in patriarchal societies men are assigned those types of activity which have a direct exchange value and therefore the work of men is considered more useful and that of women is considered less prestigious in the social hierarchy. In the sex based segmentation of labour some activities are generally restricted to men and others to women. Agricultural activity is often termed as a man's job and house-work as a women's job. However, women in a peasant household are also responsible for cattle-care, whose produce is quite often marketed meet the subsistence needs of the family. Women's work in the household, in subsistence agriculture and related activities is generally not considered to be economically productive and is either not accounted for or is grossly undervalued if counted. Household labour is not calculated as paid work. Its contribution to the economy is typically undervalued or ignored. One of the reasons for this is that there is no quantification methodology for them. The performers of such activities do not see any realization of their work done in monetary terms. Reliable techniques have to be developed to measure the contribution of women to the family; especially non-monetary

contributions. Rural Indian women are extensively involved in agricultural activities. The nature and extent of women's involvement in agriculture differs with the variations in agro-production systems (Nishu Bala, 2010).

Agriculture is the main source of sustenance for both developing and under developed countries. For agricultural production, labour is an integral part. Human civilization history shows that the emergence of agriculture was the beginning of settled life. Settlement of nomadic people emerges relationships of family and women assumed a special role in the family and they started to live near rivers for production of food. So, we can say that beginning of agriculture had a special significance in defining and determining the role and status of women throughout the world. In our male dominated society, most of the power lies with men, and women are cultural victims. Men enjoy superiority and women face hardship. If women had been given equal opportunities as men, the growth and prosperity of the country would have been manifold. There are different traditional attitudes towards men and women which confined women to the role of homemaker. Though now like other countries of the world, Indian rural women are actively participating in various agricultural activities besides their usual role of homemaker. The world has alleged the life and duty of female agricultural labourers who have subsidized much to the progress and well-being of the societies, nations and the world at large in the communal, fiscal, cultural and spiritual fields. Agriculture establishes through human labour, a primary field of fiscal action and an indispensable field of production. The world of agriculture, which subsidizes society with the goods it needs for its daily sustenance, is of fundamental importance. All over the world women make important contributions to the agricultural and thus to the rural economies which has a variation across countries and regions. In all developing countries, women make essential contribution in agriculture and rural economy. It is difficult to assess exact contribution of women in agriculture both in terms of its nature and in terms of magnitude. The penetrating study of different sources has not designated any such alteration till actually newly. Agriculture is still the predominant action in rural areas and women have remained very considerably in agriculture, indeed their dependence on agriculture has increased and gender gap is spreading. In countries like India, women's position is not as strong as men both economically and socially. Also she faces more constraints than men. They cannot relocate easily. Women in rural areas have to manage multiple activities like maintaining home, making food, arranging water etc. though they are working in farms. So, they are living hard life. All the activities performed by rural women is essential for the well-being of the rural households, still they are not defined as „economically active



employment" in national accounts. Nearly 80% of the fiscally active women in sub Saharan Africa and at least half in Asia except West Asia are in agriculture. The Indian censuses categories those employed in agriculture into two broad divisions - cultivators and agricultural labourers. According to census 2011, 39.1% females work as an agricultural labourers. In many Asian countries, more than 30% of all workers are agricultural labourers. In agricultural sector of many Asia and Pacific Region (APR) countries, women have a considerably high employment share than men. Indian farming employs more than 65% of the female labour force. Contribution of women in terms of time spent and tasks performed in agriculture is greater than men. Participation and contribution of women in various agricultural activities varies as per different regional and cultural norms. In spite of having these variations women play a significant role in agriculture sector, but they are treated as invisible hands and their contribution is underestimated by the society. Rural women perform various activities on and off the farm. Women are performing various on farm activities like ploughing, sowing, weeding, manure application, transplanting, harvesting, winnowing, threshing, pesticides spraying, field irrigation etc. In addition to these activities they also perform various household duties, looking after their livestock, horticulture activities etc. So, female workers face a double burden of doing „unpaid“ as well as „paid“ work. Women are spending much of their time in unpaid monotonous household activities. Also working hours for rural women is longer than men because there is no clear boundary between productive and unproductive work in case of women. They have to work on farm as well as at home. In spite of working for longer hours in farms than males, females are facing gender discrimination. If we see a long history of India, then it has many policies and government programs for the wellbeing and fiscal rights of women. But none of these existing programs address the cultural and traditional discrimination against women which leads to poor working condition for women. Female labourers lacking the knowledge of technological advances in agricultural sector because extension services tend to reach to men only and women perform only unskilled activities in farms.

Status of any individual very much depends on the role or roles one performs since varying levels of values and prestige are associated with different roles. In a traditional society where patriarchal family system prevails, the women are confined to the four-walls of the house. This limits their mental horizon and they are considered incompetent to make major decisions. They do not take part in the family decision-making process. Thus, they become dependent and remain agent rather than actors.

Women carry out bulk of the work in agricultural production, particularly in hilly areas. Women do around 50-60 per cent of all field work, and most of the post-harvest and processing tasks are solely their responsibility. There is, however, strict gender division of labour in agricultural work. Men perform all operations involving machinery and draught animals. Thus, men are responsible for all ploughing, harrowing and leveling for irrigation using bullock bailing, spraying, and for threshing where animals are used. All activities involving direct manual labour are essentially assigned to women. These include sowing, transplanting and weeding. Women also play an important role in harvesting and processing work, which has not been mechanised. This particularly applies to harvesting, threshing, winnowing, dehussing, and grinding of millets. Rice, on the other hand, is now mostly dehussed by rice mills. Women are also heavily involved in animal husbandry. Whilst the care of draught animals tends to be the man's responsibility, looking after milch animals, sheep, goats and poultry are the woman's preserve. In this connection, women are involved in collection of fodder from forests and other communal areas. Collecting fuel-wood from forests for use in the kitchen and fetching drinking water in rural areas are the responsibility of young women. While the above tasks are by and large the responsibilities of women, sometimes men also perform them. In such cases, women are paid less for equivalent tasks they perform. In particular, the collapse of rural non-farm employment and the growing crisis in the agricultural sector are leading to massive longterm, long-distance migration by men from rural poor households, leaving women to survive through agricultural wage labour. Women's dependence on agricultural wage labour as a source of income has also increased in these regions with the destruction of many household-based industries employing mainly women. Women's involvement in the informal sector is characterised by a high incidence of casual labour, with women mostly doing intermittent jobs for extremely low wages or working on their own, account for very uneconomical returns. There is a total lack of job security and social security benefits. The areas of exploitation are high, leading to long hours of strenuous work in unsatisfactory conditions and health hazards. In addition, women are exposed to financial exploitation by traders and middlemen who provide credit or raw materials and take back cheaply the finished product by cheating women through providing insufficient or sub-standard raw materials. The organised sector takes advantage of this vulnerable position of the labour force in the informal sector and large industries are now finding it advantageous to decentralise production to make use of workers in the informal sector. The position of women in the social structure affects the way they are regarded in their economic roles as well.

First, it has resulted in a pervasive sexual division of labour, which reinforces the notion of the male having more power and relegates low-status occupations to women. In doing so, it leads to a wastage of female potential and ignores individual differences in capacities and abilities within each sex. Once occupational or task segregation takes place, it tends to be retained against all other rational criteria. Second, having defined women as solely responsible for family care, their incursion into the labour market, made inevitable by inadequate income of men or absence of male earners, is at certain levels seen as deviant behaviour. It results in the pervasive notion of the woman worker as a supplementary earner, irrespective of the total resources contributed to the household or the time and energy spent. Thus, a woman who earns as much as 50 per cent or sometimes 100 per cent of the household income is still regarded as a supplementary earner. And almost in all cases and at all levels (except to a large extent in the organised sector which accounts for a very small percentage of women), they do not get equal wages for equal work, nor do the conditions of work offered to them take into account their dual roles. The need to combine productive work with her reproductive role and family responsibilities means that a woman's choice of work is often dictated by what is feasible and easily available. Need for this flexibility is frequently exploited by the labour market and is easily used as another excuse to pay low wages to women. Amongst the poorer sections of the rural community, women are frequently expected to shoulder the burden of the survival of their families. As one woman put it, "If there is money in the house, the control is his. If there is no money in the house, the responsibility is mine". On account of the highly erratic availability of work, women are generally engaged in a multiplicity of activities. Similarly, their employment status varies from unpaid family work to wage labour outside the home, such as act/piece work, independent work and rendering services in exchange for goods and services. Women tend to work for longer hours and contribute more than men in terms of total labour energy spent by the household members. On account of deeply entrenched social customs, taboos and prejudices, women-folk's work continues to be invisible and confined more to non-monetary activities. The average hours of unpaid work done by married women outside the home varies from 6 to 7.5 hours per day, and some of them even work more for than 10 hours during the peak agricultural seasons. It is not uncommon for them to be engaged in agricultural operations for 12 hours per day.

# Chapter - 2

## Women participation in agriculture

Farm women play a significant role in agricultural production. A number of studies revealed that development has had adverse consequences on women in third world countries with accelerated development, women's work load increased. Status of women's work decreases and poor rural women have increased difficulty in meeting the subsistence needs of their families, with the result, often plagued by malnutrition. The development process has actually made the day-to-day living of women a drudgery and misery by excluding them from access to modern agricultural techniques.

Women's work, especially in agriculture, has been made peripheral and women's multiple roles in the rural economy have been ignored in the androcentric environment of planning and policy making.

Women contribute directly to almost importance of the problem without being the direct beneficiaries of agricultural inputs, training or capital. Irrespective of agrarian structures, women's work is buried in the collectivity of a household or family. Women also perform more agricultural operations than men. In all the three crops, they work for more months in a year than men, and perform all operations except ploughing. During the agricultural season, the working day of the women is as long as fifteen hours including her house-hold work. Women's wages, however, are generally lower than men's wages and the operations done by men are done with practically no mechanical aids and are time-bound. The casualisation of female labour has been because of limited impact of overall growth in agriculture and the growing displacement of workers in the rural nonagricultural sector.

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activities involving direct manual labour are essentially assigned to women. These include sowing, transplanting and weeding. Women also play an important role in harvesting and processing work, which has not been mechanised. This particularly applies to harvesting, threshing, winnowing, dehiscing, and grinding of millets. Rice, on the other hand, is now mostly dehusked by rice mills. Women are also heavily involved in animal husbandry. Whilst the care of draught animals tends to be the man's responsibility, looking after milch animals, sheep, goats and poultry are the woman's preserve. In this connection, women are involved in collection of fodder from forests and other communal areas. Collecting fuel-wood from forests for use in the kitchen and fetching drinking water in rural areas are the responsibility of young women. While the above tasks are by and large the responsibilities of women, sometimes men also perform them. In such cases, women are paid less for equivalent tasks they perform.

Women make essential contributions to the agricultural and rural economies in all developing countries. Their roles vary considerably between and within regions and are changing rapidly in many parts of the world, where economic and social forces are transforming the agricultural sector. Rural women often manage complex households and pursue multiple livelihood strategies. Their activities typically include producing agricultural crops, tending animals, processing and preparing food, working for wages in agricultural or other rural enterprises, collecting fuel and water, engaging in trade and marketing, caring for family members and maintaining their homes. Many of these activities are not defined as "economically active employment" in national accounts but they are essential to the well-being of rural households.

### **Growth in agricultural employment**

During the past two decades, women's share in total agricultural employment has increased dramatically; while, only slightly more than one in four agricultural workers were female in 1971 but by 1981, almost one in three were men. The same trend is evident among wage workers as there has been an increase in both the absolute number and the proportion of women. Modern agricultural technologies appear to have increased the absorption of female labour per unit of agricultural land. Much has been written about the "displacement of female labour" in different regions and in different socio-economic groups within the same region. The agricultural department should make some special efforts to help these poor women cultivators to come up in life and become an instrument of socio-economic transformation by contributing their mite from a rural area towards the agro-industrial

development of this country. An average women works twice as hard as the average men. According to I.L.O (2010), Geneva observation, "Women and girls are half the world's population but do work for two-thirds of the world's working hours" To arrive at this provocative conclusion, the ILO has taken into account work in the home as well as in field and factory. In the popular imagination, women of the Third World look after their houses and raise children, while the men look after the land and raise crops. The above-stated facts demand two things to be done for improving the status of rural women. The first one is to involve the rural women in generating household income through increased homestead production and the second one is to create opportunities for women's access to resources and decision making in the household. If the first one is efficiently organised through programmes, it is expected that the second one will automatically fall into the pipe-line. Once women can take leadership in increasing homestead production and can control the labour and other resources involved in it, their active role in decision-making in the family will be vital.

Women play an important role in all dimensions of agricultural production-in certain regions, today's women time input equals men's while in other regions traditions restrict their work to the household where they are involved in crop processing and are in charge of household maintenance. In most cases, women's efforts are non-monetized although they make large labour contributions to a range of marketed products such as dried fruits, fuel wood, dairy products and handicrafts. The problems of women in agriculture resemble the 'progressive set of problems' that other marginalized communities face in the general population, but in a more acute and distressing manner. These problems relate to land ownership, security of tenure, land quality issues in cases where land ownership is assured, and land management issues in terms of agriculture and the support systems it requires. Any changes in land ownership and agricultural pattern affect women for more than men (positive or negative), given the existing gender roles that women are expected to fulfill, mainly related to management of the household in their reproductive roles- fuel wood collection, fodder collection, livestock tending in general, food security needs and so on. Their dependence on agriculture on common lands, on forests and water is that much greater and more acute. The mode of female participation in agricultural production varies with the land owning status of the farm household. Women's roles range from managers to landless labourers.

Moreover, they work longer hours and more intensively, and are generally easier to administer. Gathering of fuel wood is the exclusive responsibility of

women and girls. In general, male activities such as land preparation, planting sowing and fertilizer application are one-time jobs, usually accomplished within a stipulated time. Female activities, however, such as weeding, are recurrent daily activities, lasting from the time the seed is planted until it is harvested.

# Chapter - 3

## Decision making power of women in agriculture

Decision making refers to take decision regarding agricultural activities either solely or with husband or with family members or no decision at all. In case of major agriculture farm activities like sowing practices, nutrient management, crop protection and harvesting and post-harvest activities, majority of the farm women take joint decisions with family members or with husband. While, independent female decisions are normally negligible. Certain areas such as crop protections and policy decisions, farm women are denied to take any independent decision in all aspects of these activities.

The role of women has always been multi-dimensional and significant as women have performed well in case of agricultural activities, domestic activities and marketing activities as far as labour requirement is considered. The decision-making is a very important segment of every household because the functioning of family resource management depends on the efficiency of decision-making progress. So, women's involvement in decision-making process has been of great importance because women play an important role in every household activity and give excellent inputs most of the time. It may be related to household activity or for the decision making at agriculture or any other level. In rural society, there has been considerable fluctuation regarding the decision making power of the women. The states like Punjab and Haryana show positive role of women in decision-making process in many of the families. But it has become insignificant and negligible in rural families due to illiteracy of the women. The contribution of rural women is not being taken seriously because it is considered very disgraceful to accept the decisions of women. This is because the abilities of women have been neglected and undermined as the responsibility of forming the policies is always regarded as the job of men traditionally.

Rural women play the dual role of housewife and mother along with that of primary producer, processor and seller of products from the family farm. In any farming system, the rural women is a central part of the human eco-system in which resources are produced, brought or gathered and transformed for use



or sale by the family. Live-stock farms are a part of that eco-system, and rural women's role extends from her labour contribution to participation in decision-making about the choice of animals and poultry, their care and feeding, housing, breeding, marketing and the use of animal products. In the absence of adequate quantified baseline data, however, precise production responsibilities cannot be identified, and this makes it difficult to direct inputs appropriately.

Farm women play a significant role in agricultural production. A number of studies revealed that development has had adverse consequences on women in third world countries with accelerated development, women's work load increased. Status of women's work decreases and poor rural women have increased difficulty in meeting the subsistence needs of their families, with the result, often plagued by malnutrition. The development process has actually made the day-to-day living of women a drudgery and misery by excluding them from access to modern agricultural techniques. It is disconcerting to note that development experts recognise women as 'reproducers' but ignore them as 'producers'.

A large proportion of working women are in rural areas and their principal source of employment is agriculture. Majority of women in agriculture are working on their own account or as unpaid family workers and most of them do not have access to cash income.

Although many families survive only through the contributions made by women to the family income, paradoxically women have little control over family income and expenditure decisions. As a result, men consider their wages as their own income and they give only a certain part of it to women for family needs. Wages for agricultural work, even when paid to the women, are usually taken over and controlled by the household men. The squandering of women's income by men on liquor, etc. is a major concern for many women though it affects the family as a whole. The so-called breadwinners consider their income to be private property whilst women are left to manage the household as best they may. However, where women have some control over the money they earn, they usually spend the bulk of it on the family's basic needs, especially food. Hence, the issue of control over household income is a crucial factor affecting nutritional level of women and children. Various studies have revealed that children's malnutrition in agricultural labour households is much more closely linked to whether or not the mother was employed, than to the father's employment; daughters in particular were left much worse off than the sons on mother's non-working days. Women, in addition, have virtually no control over the family assets. In majority of cases,

land is in the name of the male head of the household. The women also have no control over, or access to, other means of production necessary for agricultural operations such as wells, carts and draught animals which are men's possessions. The same is true to other agricultural implements and tools like ploughs, harrows, hoes, sowers, etc. The only tools and implements in the possession of women are sickles, baskets and winnowing fans. Furthermore, there is a qualitative difference between the tools controlled by men and those in the control of women. Whereas men's tools are usually based on the use of other-than-human sources of energy, women's tools are usually dependent on their own physical energy. Thus, women's tools imply more labour-intensive work than those of men. As a result, women's work is considered less productive than men's work and is consequently lower paid. Thus, wages for women in agriculture are only around 50-60 per cent of those paid for men.

The landed property being fully under the control of men, the women in the household has hardly any say in all matters pertaining to farming. But, the position is different in regard to small to marginal farms where women do play a part in decision making in regard to land use. A study of the Chambal Commend Area in Madhya Pradesh suggests that more than 30 per cent of farm women are consulted regarding the choice of crops to be grown, variety of seeds, fertilizer applications, quality of grain to be marketed etc. The degree of female participation in decision making as stated earlier is higher among Scheduled Castes, Scheduled Tribes and Backward Communities. In the State of Haryana, women are active in matters pertaining to animal husbandry rather than agriculture. For instance, they have a say in the purchase of draught and milch cattle, while in the case of choice and area of crops, investment and irrigation, purchase of land, giving and taking up of credit, they are seldom consulted. However, it has been found by certain studies that women belonging to both small and big farms say nearly 70 percent, participate in crop production and participate in a bigger way in dairy management. In the State of Orissa, decisions on such activities as hiring of labourers, disposal of produce, purchase from market, variety of seeds to be used and use of tools and pesticides are jointly taken by men and women. It is the women who control the income from the sale of vegetables from kitchen gardens. This brings us to the unique role played by women in animal husbandry (ANNGO Report, 2006).

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for family needs. Wages for agricultural work, even when paid to the women, are usually taken over and controlled by the household men. The squandering of women's income by men on liquor, etc. is a major concern for many women though it affects the family as a whole. The so-called breadwinners consider their income to be private property whilst women are left to manage the household as best they may. However, where women have some control over the money they earn, they usually spend the bulk of it on the family's basic needs, especially food. Hence, the issue of control over household income is a crucial factor affecting nutritional level of women and children. Various studies have revealed that children's malnutrition in agricultural labour households is much more closely linked to whether or not the mother was employed, than to the father's employment; daughters in particular were left much worse off than the sons on mother's non-working days. Women, in addition, have virtually no control over the family assets. In majority of cases, land is in the name of the male head of the household. The women also have no control over, or access to, other means of production necessary for agricultural operations such as wells, carts and draught animals which are men's possessions. The same is true to other agricultural implements and tools like ploughs, harrows, hoes, sowers, etc. The only tools and implements in the possession of women are sickles, baskets and winnowing fans. Furthermore, there is a qualitative difference between the tools controlled by men and those in the control of women. Whereas men's tools are usually based on the use of other-than-human sources of energy, women's tools are usually dependent on their own physical energy. Thus, women's tools imply more labour-intensive work than those of men. As a result, women's work is considered less productive than men's work and is consequently lower paid. Thus, wages for women in agriculture are only around 50-60 per cent of those paid for men.

Decision making is a basic process that covers all functions of family resource management. Making a decision entails that there are alternative choices to be considered, and in such a way one not only wants to identify as many of these alternatives as probable but to prefer the one that might have the highest probability of accomplishment of the best fit with our goals, desires, lifestyle, values, norms and traditions. Decision making is the route of sufficiently declining uncertainty and reservation about alternatives to allow reasonable choices to be made amongst them. This definition stresses the information gathering function of decision making. In this way uncertainty is reduced rather than purged. Very few decisions are made with unconditional certainty because absolute comprehension regarding all the alternatives is seldom probable. Therefore, every decision involves a certain and slight amount of risks in it. Rural women share many responsibilities and perform a

wide spectrum of duties for running the family, maintaining the household, attending the farm labour and tending domestic animals. Females are the key player in the agricultural sector in most of the developing countries. However despite their major role, men have continued to dominate farm decision making, even in that sector where women are the highest providers of farm labour. Rural women suggestions are not given importance as the majority of women are illiterate, has little time to know about the latest technique of farming due to their family responsibilities and social and cultural constraints. Today, even the suggestions of knowledgeable women have been ignored because men consider it disgraceful to accept the decision of women. This is because traditionally men have been major decision maker and law maker of the society. It is generally accepted that equal participation of male and female is the best key to build and sustain the society that will resolve conflict and achieve the goal of human development. But many policies of the government and decision neglect women contribution and undermine their abilities. Women's involvement in domestic decision- making is recognized as a distinct aspect of their autonomy with implication for reproductive behavior. There has been little farm level information regarding their role in decision making, particularly in male dominated agricultural sector. Gender plays an important role in initiation, control and supervision of farm production, horticulture, livestock and productive work (Census 2011). Despite female's critical contribution to the family income through productive activities; no recognition has been given to them as an important contributor. In spite of performing all these activities, her involvement in decision making process specially related to money and buying and selling matters is negligible. The national council of women carried out a study aimed at examining the views of the general public with regard to the participation of women in decision making positions. Major obstacles faced by women in obtaining a decision making or managerial position, 83.7 per cent of women indicated childcare responsibilities as a barrier, while 82 per cent of women cited the lack of partner support. More women than men stated that long working hours (75.8 per cent of women, compared with 69.1 per cent of men) represent significant obstacles for women in their pursuit of posts with greater responsibilities. 30 per cent women were disadvantaged due to their sex; this reason was given more often by women than men (NSSO; 2006). The some of the studies in India analyzed considerable variations in female's involvement in decision making process in different parts of the country especially in rural areas. The progressive state like Punjab and Haryana show positive role of women in decision making process. But in primitive societies, the pattern of decision making is traditional where the head of the family members make all

decisions. They are still disadvantaged as compared to men in virtually all aspects of life. Women are deprived of equal access to education, health, care, agriculture, capital and decision making power in the political, social, agriculture and business sectors.

# Chapter - 4

## Factor affecting women contribution in agricultural sector

Women's participation in agriculture is depending on social, cultural and economic conditions of the country. It also varies from region to region and even with in a region, their involvement varies widely among different farming systems, castes, classes and socio – economic status. Many social, cultural, legal, political and financial factors are affecting contribution of women in agricultural sector. Some of the factors which mostly affected female participation in agricultural activities are discussed here.

### 1. Ownership of land

Women represent over 50 per cent of the world's population and provide 60- 80 per cent of the world's agricultural labour, yet research indicates that female own less than 5 per cent of the world's land. More than 80 per cent of the farmers in Africa are women, yet they do not have secure rights to the land they are farming. Secure land rights provide women with greater incentives to adopt sustainable farming practices and invest in their land and make a powerful contribution to household food security. Women's property rights increase women's status and bargaining power within the household and community. The ownership of land in South Asian Countries reflects the economic power structure in the society and access to important agricultural inputs is ensured by that factor. The segmentation of right based on legal, social or monetary dimensions; which deprive women from ownership of land.

### 2. Credit as a constraint

Women's efficiency is oftenly hampered by inadequate access to credit, especially in rural areas. So by improving rural women's access to finance gives them a possibility to become independent. Access to credit also, empowers women by increasing their sovereignty and decision-making within the household. Amplified autonomy may allow women to attain unrealized fertility goals by improving their bargaining power in the household. It is generally observed that women have little control over their credit. They do

not always consume loans themselves but act as representative of male family member. It has been observed that most of the women are willing to take up jobs to supplement of their family income. The reason may be that their husband's incomes were very low and they wanted to improve the condition of their family through participation in income generating activities. The majority of women do not have the required skill but they are quite willing to learn new methods through training. Access to financing at affordable rates, as a constraint for poor women, and taking this into account, many development agencies began to turn their efforts towards utilizing credit as a development tool. So credit programs tend to help greatly in changing the attitudes of men towards the role of women in the household and the community in general.

### **3. Socio - economic constraints**

Women are facing several hindrance concerned to socio-economic empowerment like lack of job opportunities, marketable skills, low remuneration and low status. Among these, poor quality education, restrictions of female mobility and early marriage of girls have created problems for girls to join training programmes. Society values contradicts the philosophy of women development, as to confines the definition of women development within the boundaries and conventional society especially in the rural areas limits the activities of the women. Women contribution in making their families strong both economically and morally is considered as a part of their inborn duties. Their role is always less demanding and less appreciable by their families and freedom to work for women like men is difficult to be accepted by their men as head of family. Most of male do not allow their women to become their competitors. The major reason is the insecure society which restricts women to move outside for earning their livelihoods even they have strong urge for it.

### **4. Poor health and malnutrition**

In rural areas where women's status is grossly neglected, gender often does not receive proper nutrient in her diet in her life span which causes her low health condition and prone to diseases. When she becomes worker in agricultural sector, it adversely affects her participation in the productive activities.

### **5. Migration**

In rural areas, women have been put into more complex and demanding lifestyle influenced by the accelerated rate of males migration to urban areas

in search of job and other earning opportunities. This trend affected rural area in terms of increased out migration by men and by leaving behind all the family responsibilities upon women, particularly the farm work.



# Chapter - 5

## Ergonomic friendly agriculture technologies

Health is the man's most precious possession. It influences all his activities and shapes the destiny of people. Without it there can be no solid foundation for man's happiness. Farming is a complex way of living that creates stressful life conditions among farmers in the primary sector. Occupational stress contributes not only to life stresses, but has an impact on health and, thus, on the quality of farm life experienced by farmers.

The occupational health problems may be mainly due to two reasons, i.e. the use of harmful chemicals in the occupation and the bio mechanical and posture demand of the workplace leading to musculoskeletal problems.

The musculoskeletal disorder is of very high concern of the ergonomists. The risk of developing musculoskeletal problems is mainly due to the inconvenient work postures. Ergonomics is the process of designing or arranging workplaces, products and systems so that they fit the people who use them. Ergonomics applies to the design of anything that involves people – workspaces, sports and leisure, health and safety.

Ergonomics is a branch of science that aims to learn about human abilities and limitations, and then apply this learning to improve people's interaction with products, systems and environments. Ergonomics aims to improve workspaces and environments to minimise risk of injury or harm. So as technologies change, so too does the need to ensure that the tools we access for work, rest and play are designed for our body's requirements.

### **Why is Ergonomics important?**

Ergonomics aims to create safe, comfortable and productive workspaces by bringing human abilities and limitations into the design of a workspace, including the individual's body size, strength, skill, speed, sensory abilities (vision, hearing), and even attitudes.

### **How does ergonomics work?**

To achieve best practice design, Ergonomists use the data and techniques

of several disciplines:

- **Anthropometry:** body sizes, shapes; populations and variations
- **Biomechanics:** muscles, levers, forces, strength
- **Environmental Physics:** noise, light, heat, cold, radiation, vibration  
body systems: hearing, vision, sensations
- **Applied Psychology:** skill, learning, errors, differences
- **Social Psychology:** groups, communication, learning, behaviours.

## 1. Sowing and Planting Equipment

### a) Naveen Dibbler

This dibbler consists of jaw type seed placement device, cell type metering mechanism, lever type power transmission system for roller and jaws and seed box with delivery system. After filling the desired seed to be sown in field, the worker should keep the dibbler at desired place and gently push the lever (front of dibbler) for opening the jaw so that seed may drop.

### b) Seed Drill

The PAU Seed Drill consists of a handle, hopper for seed, a ground wheel, a fluted roller and a hook for pulling the drill. The metering of seed is done with fluted roller. It has been refined for women workers using anthropometric data. PAU Seed Drill is operated from the ground wheel shaft through chain and sprocket mechanism. It needs to be operated in well-prepared field. The seed drill is operated by two workers, i.e. one for pulling and another for pushing and guiding. Rope is tied to hook provided in front of the seed drill for pulling.

### c) Two Row Rice Transplanter

This equipment consists of frame, floats, seedling tray, operating handle, fingers (pickers), tray drive unit and depth control mechanism. To operate the equipment, a mat type nursery is raised. The size of mat is 22 cm in width, 45 cm in length and thickness of soil of 1.5 cm. After puddling excess water (leaving 25-50 mm of water) is drained and from next morning the equipment can be operated. The seedling mats may be loaded on the machine tray after sprinkling little water over the tray surface for smooth sliding of mat. After lifting the operating handle, it may be pushed down gently to push the seedlings kept in tray for transplanting.

**d) Four row paddy drum seeder**

It consists of drive wheels with lugs, drive shaft, hyperboloid shaped drums and swinging type pulling beam. The hyperboloid shaped drum enables free flow of seed towards the metering holes. In between two holes a baffle is provided for filling the drum with seeds. It has 18 holes of 10 mm dia for dropping the sprouted seed in puddled field. The holes can be plugged depending on sprouted seeds and seed rate. A swinging handle is provided with the unit for pulling the seeder. After filling the drum, the lid of the drum may be closed and locked. After puddling excess water may be drained. From next morning operate the equipment at a walking speed of 1-1.5 km/h in the puddled field. The wheel impression during the previous pass will serve as a marker for the subsequent passes. During the operation of the equipment, dropping of seeds through the holes may be observed and drums may be refilled when the drum gets empty.

**e) Sugarcane Bud Chipper**

The device includes a hemispheric knife actuated by a hand operated lever. One needs to place the cane on the platform and press the hand lever. After every stroke the cane needs to be rotated by 180 degree by the other hand, because the buds are at opposite sides on consequent sets. The chipped buds can be sown directly in the field.

**2. Weeding and Interculture Equipment**

**a) Hand Ridger**

The equipment is suitable to be operated by farm women to make ridges and furrows for ridge planted vegetables, sugarcane planting and making field channels for irrigation. It is simple labour saving implement operated by two women for forming small ridges where crops are to be grown under irrigated conditions. It consists of a handle, ridge maker share and t-type pulling beam. Field needs to be well prepared for getting better performance of equipment for making ridges/furrows. The equipment is operated by two women workers, one for pulling and another for pushing and guiding.

**b) Grubber Weeder**

It is used for weeding and intercultural operations in row crops like Soybean, Pigeon-pea, rapeseed, chickpea etc. It is a simple and light weight, manually operated equipment for weeding and inter-culture in upland row crops. It consists of long handle, ferrule, three tynes and

sweep type blades. The operator uses pull force to break the soil crust and uproot the weeds.

**c) Single Wheel Hoe**

It consists of wheel frame, V-blade with tyne and handle. Weeds cutting and uprooting are done through push and pull action of the unit.

**d) Twin Wheel Hoe**

Twin wheel hoe consists of two wheels, frame, V-blade fixed on a tyne, U-clamp and a handle. The cutting and uprooting of weeds in field is done through push and pull type action of the equipment. The equipment is operated at optimum soil moisture condition and preferably after 20-25 days of sowing i.e. when the weeds are small i.e. 1 to 3 cm height for better weeding performance.

**e) Cono Weeder**

Two truncated rollers one behind other are fitted at the bottom of a long handle. The conical rollers have serrated blades on the periphery. A float provided in front portion prevents the unit from sinking into the soil. The cono weeder can also be used for trampling green manure crop in addition to weeding operation. It disturbs the top soil and increases aeration also. The equipment is operated in standing posture thus avoiding bending involved during uprooting of weeds by hands in traditional practice.

**3. Harvesting Equipments**

**a) Improved Sickle**

It consists of serrated blade, ferrule and wooden handle. Cutting of crop stalk is being done with the improved (serrated) sickle by sawing action as against by impact or pulling action in case of local (plain) sickle. Due its less weight i.e. about 180 g the fatigue coming on wrist is less and the drudgery involved in harvesting is reduced as compared to local sickles which are heavier i.e. weighing about 350 g.

**b) Cotton Stalk Puller (Wheel Type)**

The cotton stalk puller consists of long handle designed in such a way that when the handle is moved downwards, the front jaws firmly hold the stalk due to press plate hinged at the bottom of the main frame. On further downward movement the press plate acts as a pivot and the front jaw portion gets lifted up along the stalk. Once the operation is over the press plate comes to its original position with help of a tension spring fitted between press plate and mainframe. The unit can easily be moved to next

plant with the help of ground wheel.

**c) Fruit Harvester**

The manually operated fruit harvester consists of main body of PVC having cylindrical shape. The upper end of the body is closed and fixed with two fingers cut in V-shape and with sharp blades. An opening is provided on the body for entry of the fruits to be harvested. The bottom end of the body is open to which nylon net for collecting the fruits is tied. On the back surface of the body a metal holder is fixed to fix the aluminum pipe of required length. The length of the cutting blade was increased from 30 mm to 70 mm to increase the comfort of the worker.

**d) Bhindi Plucker**

It fits into the hand properly, with the help of two rings - one in thumb and another in little finger. Force to cut the pedicel is exerted by pressing these two fingers together.

**4. Threshing Equipments**

**a) Hand Operated Maize Thresher**

This equipment consist four blades, bearings are fitted for easy movement of the handle. It has four beaters (blades) and works on beating principle. The cobs are put in the hopper and with beating acting of the blades the Maize seeds are removed from the cobs.

**b) Paddy Winnower**

This machine is easily operated and very useful for women farm workers. It consists of main frame, handle, gear mechanism, volute case, fan, hopper, outlets for clean grain and chaff. This machine can be operated by women worker by using hands in standing posture. Two women workers are required for operation of this machine, one woman operates the machine and other woman feeds the hopper and separates the cleaned grain. The machine can be easily operated by women while seating on chair or stool.

**Some other ergonomic tools and equipment's**

- Four row direct paddy seeder
- Sugarcane stripper
- Groundnut stripper
- Fertilizer broadcaster

- Fruit harvester
- Pedal operated paddy thresher
- Diaphragm pedal pump
- Hand ridger
- Hanging type grain cleaner
- Cotton stalk puller
- Improved sickle

# Chapter - 6

## Health hazards faced by women in agriculture

Agriculture is the science, art and occupation of cultivating the soil, producing crops and raising livestock.

A hazard is anything in the workplace that has the possible to harm people. Hazards can include objects in the workplace, such as machinery or dangerous chemicals.

### Agriculture and Hazards

- Agricultural sector is one of the most hazardous to health
- Agricultural work possesses several characteristics that are risky for health
- This brief outlines the health hazards of agriculture
  - Exposure to the weather
  - Close contact with animals and plants
  - Extensive use of chemical
  - Use of hazardous agricultural tools and machinery.

Ergonomics is an applied science that deals with the adaptation of work and the workplace to the characteristics and capabilities of the worker so that he or she may perform the duties of the job effectively and safely. It addresses the worker's physical capacities in relation to the physical requirements of the job (e.g., strength, endurance, dexterity, flexibility, ability to tolerate positions and postures, visual and auditory acuity) as well as his or her mental and emotional status in relation to the way the work is organized (e.g., work schedules, workload and work-related stress). Ideally, adaptations are made to the furniture, equipment and tools used by the worker and to the work environment to enable the worker to perform adequately without risk to himself/herself, co-workers and the public. Occasionally, it is necessary to improve the worker's adaptation to the job through, for example, special training and the use of personal protective equipment: The term “Ergonomics”

is derived from the Greek word “ergon” which means work and “nomos” which means laws of work and study of human machine ' system with the goals of-

- ❖ Protecting workers from serious physical or mental harm
- ❖ Maximizing workers well being
- ❖ Increasing user’s acceptance

“Ergonomics is the relationship between man and his occupation, equipment, and the environment in the widest sense, including work, play, leisure, and travel situations”.

“Ergonomics or human machine engineering is the scientific study of relationship between man and his working environment. The term environment includes the tools and materials, his method of work, ambient conditions and physical environment of work also the organization of work. From the above concept it can be concluded that ergonomics is the study of relationship between man and his working equipment and working environment. Ergonomics is concerned, with the study of man’s daily work. The intent is to ensure that working equipments and working environment are so designed to fit the job to the man rather than man to his job.

### **Occupational Health hazards**

A hazard is something that can cause harm if not controlled. It is an unplanned, unforeseen or uncontrolled event- generally one which has unhappy consequences. It also refers to the potential risks to health and safety for those who work outside and inside the home. As farm women involve both in household and farm activities, they are more prone to this. They are exposed both outdoor and indoor environment.

#### **1. Dusts, fumes, gases, particulates**

Irritation of the eyes and respiratory tract, allergic reactions, respiratory diseases such as asthma, chronic obstructive pulmonary disease We must use nose cover for filter the pollute air.

#### **2. Agricultural noise**

Noise another common health hazard on the farm. If you are continually exposed to loud noises, you should have periodic hearing tests. This test, called an audiogram, will reveal signs of hearing loss. If a hearing loss is noted, take steps to reduce exposure. Thereby eliminating further damage to your ears.



Noise from farm tools and machinery can cause permanent hearing loss. Hearing loss may be temporary at first, but repeated exposure will lead to permanent damage. The damage can occur gradually over a number of years and remain unnoticed until it is too late. Some noises, such as gunshots, are so loud they can cause immediate permanent damage.

### **Protective Equipment**

- ✓ Where noise exposure cannot be reduced, hearing protection should be worn, e.g. on open tractors, when shooting, or when using a chainsaw.
- ✓ Try on ear muffs before buying, to ensure comfort and a sound-proof fit.
- ✓ The higher the SLC 80 (sound level conversion) figure for hearing protection, the higher the protection.
- ✓ Use lower SLC 80 muffs for moderately noisy jobs - a high rating might mask out important danger warning sounds.
- ✓ Ear plugs may be more comfortable for some farmers, but must be inserted with clean hands. Re-usable plugs must be cleaned regularly. Cotton wool is not sufficient.
- ✓ Clean and maintain hearing protectors. Replace worn or damaged parts. Keep protectors near the area of noisy activity, e.g. in the tractor cab.
- ✓ Wear a combination of ear muffs and ear plugs when shooting.

### **3. Heat Stress**

Heat stress occurs when the body builds up more heat than it can handle. High temperatures, high humidity, sunlight, and heavy workloads increase the likelihood of heat stress. Use fans, ventilation systems, and shade whenever possible. A work area sometimes can be shaded by a tarp or canopy. Drink plenty of water before, during, and after work, and consider wearing cooling vests, which are garments with ice or frozen gel inserts.

#### **Steps to take to control stress**

- ✓ Take a good look at yourself. How do you feel--both physically and mentally?
- ✓ Make a list of things that cause stress in your life.
- ✓ Think about how serious a problem stress is for you. Do you feel under constant stress, or does it come and go? Think about how stress

hurts you. How has it affected your health and work? How has it changed the way you treat other people?

- ✓ Finally, try to decide if you are under more stress now than you were a year or two ago. If stress has increased, have the pressures changed or your attitude toward them?

#### **4. Skin Disorders**

A skin disorder that occurs among agricultural workers. Agricultural dermatitis include heat rash, origin infections, and insect and plant irritants. Wearing proper protective clothing, and washing frequently are the most effective means of prevention.

##### **➤ Cancers**

Skin cancer is a concern on the farm due to the long hours farmers spend in the sun. Skin cancer is the most common form of cancer.

#### **5. Chemical Hazards**

Many agricultural workers are exposed to chemicals on a daily basis. If they do not observe proper precautions, illness or even death may ensue. All clothing worn while handling pesticides should be washed daily, separately from other clothing. Respirators must fit the face well to ensure a good seal. Long sideburns, beards, and glasses may prevent a good seal. About 100 000 different chemical products are in use in modern environments and number is growing. Exposure varies widely. Health effects include damage to the central nervous system and liver (caused by exposure to solvents), pesticides poisoning, dermal and respiratory allergies, dermatomes, cancers and reproductive disorders. Women exposed to toluene have reported a greater frequency of menstrual dysfunction including dysmenorrheal, irregular cycles and spontaneous abortions. Toxic corrosive, allergenic and carcinogenic chemicals act by local action, inhalation and ingestion on exposure to concentrations beyond the threshold limit value (TLV).

#### **6. Physical hazards**

Physical factors in the work place such as noise, vibration, poor illumination, ionizing and nonionizing radiation and microclimatic conditions can all affect health adversely. Noise-induced hearing loss is one of the most prevalent occupational health effects in both developing and developed countries. Contact with wild and poisonous animals: insects, spiders, scorpions, snakes, certain wild mammals can affect health.

## **7. Biological hazards**

Workers may be exposed to infections and parasitic agents at the workplace. Persons working with animal products and agricultural workers are likely to be exposed to biological hazards.

## **8. Mechanical hazards**

There are numerous types of work-related musculoskeletal disorders that are reported in agriculture. Women on an average have a smaller stature and have less physical strength; their vital capacity is 11% less; their haemoglobin is app. 20% less; their skin area is larger as compared to circulating volume; they have larger body fat content. They have lower heat tolerance and greater cold tolerance. So they are more prone to mechanical hazards. These include disorders of the back pain, neck pain, tendon, shoulder disorders, cumulative trauma disorder, repetitive motion disorder, carpal tunnel syndrome.

## **9. Mechanical hazards,**

Unshielded machinery, unsafe structures in the workplace and dangerous tools are some of the most prevalent workplace hazards in developed and developing countries. Approximately 30% of the workforce in developed countries and between 50%-70% in developing countries may be exposed to a heavy physical workload or ergonomically poor working condition, involving much lifting and moving of heavy items, or repetitive manual tasks. These can lead to injuries and musculoskeletal disorders. Such disorders are the main cause of both short-term and permanent work disability and lead to economic losses. The mechanical hazards in industry centre round machinery, protruding and moving parts and the like. About 10% of industrial accidents are due to mechanical causes.

## **10. Psychosocial hazards**

Occupational stress is one of the major problems from a gender perspective. Stress caused by time and work pressures has become more prevalent during the past decade. Monotonous work, work that requires constant concentration, irregular working hours, shiftwork, and seasonal-work can also have adverse psychological effects. Psychological stress and overload have been associated with sleep disturbances, burn-out syndromes, depression and hypertension. Social conditions of work such as gender distribution, segregation of job and equality in the workplace raise concerns about stress in the workplace. Besides farm activities farmwomen involve in domestic activities. These arise from the worker's failure to adapt to an alien psychosocial environment. Frustration, lack of job satisfaction, insecurity,

poor human relationships and emotional tension are some of the psychosocial factors that may undermine both the physical and mental health of workers.

## **11. Ergonomical hazards**

Ergonomics involve the environment, the tool, the workstation, the task, the organization. Its goal is to reduce work-related musculoskeletal disorders (MSDs) developed by workers. MSDs are injuries and illness that affect muscles, nerves, tendons, ligaments, joints or spinal disks. Common symptoms of MSDs are painful joints, numbness in hands, wrists, forearms, shoulders, knees and feet, back or neck pain. Swelling or inflammations are common. Risk factors are static posture, forceful exertion, repetitive movement, extreme range of motion, awkward posture

### **Stress**

It can be defined as a reaction to a short-lived situation, such as working in un-ventilated kitchen under smoky, hot environment and less illumination. Or it can last a long time if respondents/workers are dealing with dangerous machine, a spouse's death or other serious situations. Stress becomes dangerous when it interferes with respondent's/ worker's ability to live a normal life over an extended period. Respondents/workers may feel tired, unable to concentrate or irritable. Stress can also damage respondent's physical health. Therefore it is very necessary to find out the health hazards associated with the farm women at their work places (household, farm and animal rearing). The household activities such as collection of fuel & fodder, fetching of water, cooking, feeding & caring of domestic animals, milking, cleaning of shed and disposal of animal wastes are the tedious tasks performed by the women without any help of family members. These are the possible factors which may lead to health hazards due to heavy tasks which involve static awkward postures, repetitive motions of upper & lower limbs, twisting and bending at waist, knees, wrists, neck and shoulders. Besides these slips and trips due to uneven or slippery working surface responsible for accidents at working place. Environmental factors have their own effect on the human body at their respective work places. It is very difficult for a worker to perform any task with excess level of temperature, humidity, noise and smoke as well as in lower illumination level. It also decreases the working efficiency of the performer involved in different activities. Due to this ignorance, women might be suffering from various health hazards. Some ways and means could be suggested for reduction of chances to expose the identified health hazards at their workplace in carrying out above mentioned tasks.

Occupational Health Hazards have been a widespread problem in

agriculture in more than a decade. Occupational risk factors include static position, forward bending, heavy lifting and carrying, kneeling and vibration in agriculture. The identification of occupational health hazards and development of systems to evaluate intervene and decrease musculoskeletal risk factors and resulting disorders is quite crucial for safety of farm women. Role of women in agriculture is increasingly understood and recognized in agriculture. Women play a substantial role in decision making in farm related tasks. There is need to initiate women oriented researches in agriculture. As woman has different ergonomical characteristics than man, design of women friendly tools and equipment is required. Work station should be adjustable to make it comfortable for women during performing agricultural activities.

### **Preventive measure for farm women**

1. Boots and shoes should be fully laced and loose clothing tucked in to prevent power take-off and equipment entanglements.
2. Keep your hair neatly tucked under headgear or tied up when working around wrap points such as power take-offs.
3. Be extremely careful when helping to hitch implements to tractors. Do not get caught in a tight location between a tractor and other farm machinery. Learn the common hand signals associated with safe hitching procedures.
4. Always face unpredictable livestock so you can watch them at all times. Larger farm animals such as bulls and horses may panic or become aggressive and inflict serious injury. Swine, especially sows with young pigs, can be very protective of their young and may injure a person when aggravated.
5. Do not go along as an "extra-rider" on a farm tractor. Bumpy, uneven ground, quick turns and excessive speed may increase your risk of falling and being run over by the tractor or trailing equipment.

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