

**School of Management**

**Does Participation Lead to Empowerment?: The Case of Women  
Potato Farmers in Pakistan**

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**This thesis is presented for the Degree of  
Master of Philosophy (Rural Management)  
of  
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## Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any person except where due acknowledgment has been made.  
This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

Signature: .....

Date: .....

# Dedication

Dedicated to my wife

## **Abstract**

In Pakistan, most of the population live in rural areas. Despite having plenty of natural and human resources, poverty is mostly concentrated in rural areas. Recognizing the importance of rural areas, the Government of Pakistan initiated various developmental projects for eradicating rural poverty and triggering the process of rural development. Agriculture, has been the focus of these development interventions as it is the main economic sector providing livelihoods, food security and employment opportunities for the rural masses but projects which did not consider gender differentials were found to be less effective in achieving their broader objective of rural development.

Women constitute more than half of the rural population in Pakistan; they are presently active participants of rural communities. Women dependence and participation in agriculture sector was found to be higher in comparison to other sectors of the Pakistani economy. This shows their active involvement in the agriculture sector. As women are key actors in agriculture, rural development plays a major role in the economy and is necessary in Pakistan. However, to make rural development projects and programs effective and efficient, gender disaggregated data regarding participation in agriculture and relevant fields are needed, yet such data is sparse. This study was designed to partly respond to this need.

This study was conducted in Hazara Division in Pakistan. The study examines the role of women in potato farming in Pakistan and looked at the following objectives: (i) Determine gender roles in potato production in Hazara Division, Pakistan; (ii) Assess the relationship of the participation of men and women on household income; (iii) Determine whether the participation of women in potato production has led to their empowerment; and (iv) Make recommendations for future planning and studies based on the research findings. The study employed the empowerment model developed by IFPRI to calculate women's empowerment status. Women's participation in potato production activities were measured and compared with men and those factors which contribute to women empowerment were highlighted.

The study findings showed that the empowerment status of women was much lower than that of men. The main areas of their disempowerment were leadership and the

resources domain. Women participated in almost all activities from input purchase to final stages of harvesting and marketing. Women's contribution was significantly high in weeding, hoeing, bed preparation and planting activities, while their income share was found to be drastically less than that of men.

Women's participation in input purchase and marketing activity had positive impact on women's share in income, which implied that increasing women's participation in these activities will enhance women's income. Various factors contribute to women's empowerment status. Education, size of the farm, household size and income were found to be statistically significant in impacting women's empowerment status, while participatory factors like participation in services, other business activities, livestock and poultry also influence women empowerment.

In order to increase the effectiveness of rural development projects it is imperative to ensure gender mainstreaming in those projects. Women's contribution in the agriculture sector should be recognized and their contribution could also be made more productive by ensuring capacity building and increasing their access to productive resources.

## Acknowledgment

In the name of Allah the most merciful and most beneficent,

*Read! In the Name of your Lord, Who has created (all that exists). Has created man from a clot (a piece of thick coagulated blood). Read! And your Lord is the Most Generous. Who has taught (the writing) by the pen, Has taught man that which he knew not. (Al Quran: Surah Al-Alaq, verse 1-5)*

It is a moment of great pleasure to acknowledge and express my deepest appreciation to my supervisor, Associate Professor Dr. Fay Rola-Rubzen. Her continued support and academic genius made it possible for me to learn and accomplish this dissertation. Her convincing supervision induced a sense of adventure and excitement regarding my research. Her positive and supportive approach was a key factor that helped me during tough times. Without her guidance and untiring support, accomplishing this dissertation would not have been possible.

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Left till last intentionally, truly first and last, my love and my life, my wife, Moona Amjad, I know I am emotional and reactionary but she was amazing and I thank her for that. Her exceptional cooperation and patience, her practical help in completing my research thesis was immense. I am happy her sacrifices did not get wasted and I am completing my degree.

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# Chapter 1

## INTRODUCTION

### 1.1 Background

The concepts of gender equality and mainstreaming are dynamic and stretch beyond just the parameters of human rights. The development of any community and society in the modern world is directly linked with equal gender participation and development. According to Dheepa and Barani (2009), advancement in technology, knowledge transfer and education speaks about the well-being of a nation, but real development or advancement lies in 'empowering women' which is a direct outcome of gender mainstreaming.

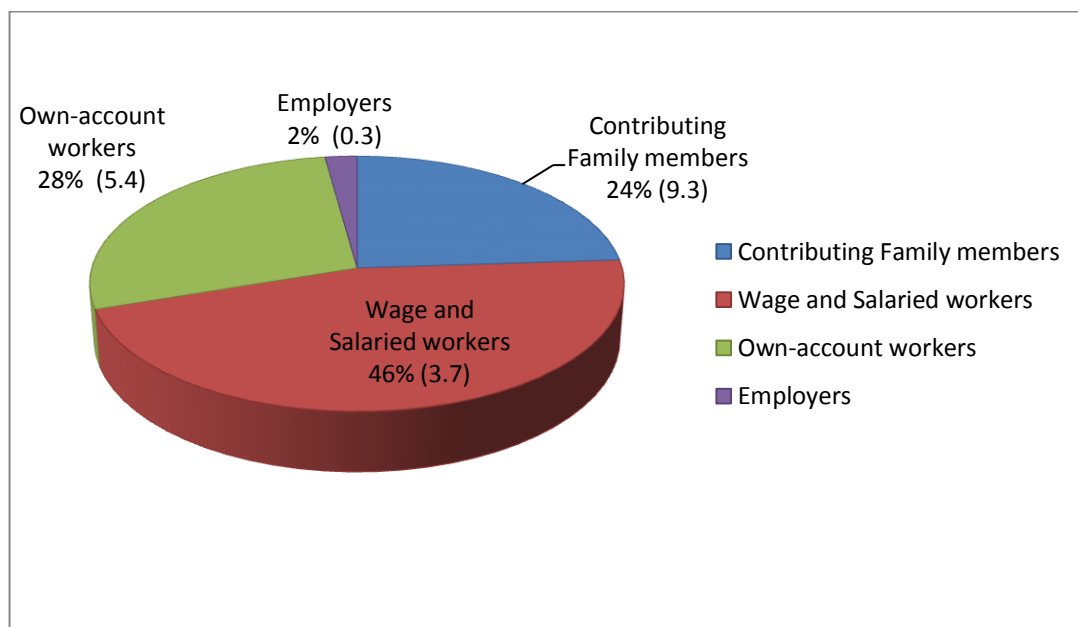
Gender refers to the different social roles and responsibilities assigned to men and women (FAO, 1997a). Both men and women fulfil the responsibilities assigned to them, maintaining balance in their society. However, the situation is not always seen as balanced: women are participating efficiently and extraordinarily in economic growth while still carrying out their traditional domestic work; they are working as farmers in the fields, as educationists, bankers, or doctors; but are also mothers, sisters and daughters, and consequently have a double work burden, while finding many constraints in their path (NCSW, 2003; World Bank, 2007 and FAO, 2011). Women in Pakistan, for instance, are responsible for food provision for their families, the maintenance of their households and the care of their children. In rural areas, they are over-burdened with other activities, including fetching water and fuel for domestic use from distant places, or making handicrafts to generate income. Their income is mostly spent on their children and household expenses.

Women are key shareholders of the development discourse, and policy intervention needs to recognise their contribution and develop them by facilitating their ability to access productive resources and skilled training to excel in their field of interest.



Women are actively employed in every economic sector in almost all regions of the world. They make up 36.2% of workers in the agricultural sector, 16.2% of industrial workers and 47.6% of the workers in the service sector. Men's contribution in these three sectors is 32.8%, 25.9% and 41.3%, respectively (ILO, 2012). As seen in these figures, women have a higher contribution to the agricultural and service sector, demonstrating their positive role in society.

Although women are active participants in every field of life, they are not always economically empowered to make decisions about their lives (FAO, 1995b and Morrison *et al.*, 2007). In general, women have limited access to resources and education relative to men, which can influence knowledge about how to carry out tasks on their own; instead they become paid workers under the supervision of men, and gendered discrimination in wages may not allow women to become financially autonomous (FAO, 1995b; Nosheen, 2011 and Saigol, 2011). Circumstances are worst in rural areas where women work as family helpers, neither acknowledged nor paid (SDPI, 2008). This situation prevails particularly in developing countries with patriarchal social structures (Amin, 2010 and Ochieng, 2003). Figure 1.1 presents a picture of women's employment status.

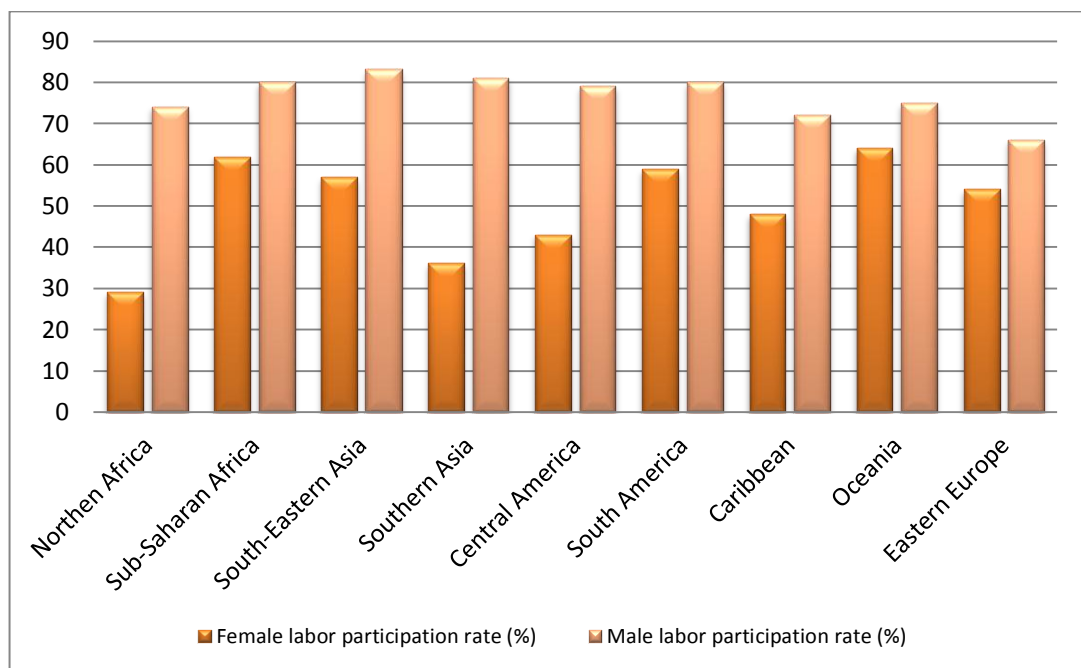


**Figure 1.1: Female status in employment in the world, 2007**

Source: International Labour Organization, Trends Econometric Models, January 2009

Financial autonomy or equitable allocation of resources in the household and workplace depends on the employment status of women. Women are found economically more sound, when they are earning on their own or if they are employers (Susilastuti, 2003 and ILO, 2009). Women are economically disadvantaged if they work as own-account labourers, and even worse, if they are unpaid family workers. Figure 1.1 shows that the share of women in wage and salaried work increased globally from 41.8% in 1997 to 45.5% in 2007, but the status of female own-account workers was enhanced strongly.

In the current era of modernisation, no country can be developed unless it integrates women in the development process, as women constitute approximately half of the population of the world and have to be a part of economic growth in every aspect. Figure 1.2 represents gendered labour force statistics.



**Figure 1.2: Labour force participation rate of persons aged 15 years or over by region and gender, 2010 (%)**

Source: United Nations Statistics Division based on data from ILO, Economically Active Population Estimates and Projections 1980–2020 (accessed June 2009)

As shown in Figure 1.2, women constitute a substantial portion of the work force in Oceania (64%), sub-Saharan Africa (62%), south-eastern Asia (57%) and South

America (59%). Northern Africa (29%) has the smallest proportion of its women in paid labour, followed by Southern Asia (36%).

Realising the importance of gender mainstreaming, international donor agencies and countries are focusing on gender-sensitive projects. Ransom and Bain's study of funding trends in agriculture-related development projects reveals an 'increased trend in the number of projects and amounts spent for gender sensitive projects during 1978–2003' (2011, p. 48); however, there is room for more policy intervention in this regard. Gender issues will continue to be neglected unless they are directly addressed in development projects. Even when gender equality paradigms are highlighted in development projects they are difficult to accomplish in patriarchal societies, in developing countries, in particular, and worldwide, in general. The social, cultural, political and religious frameworks of a society must be transformed to mainstream gender in the development process.

In South Asia, particularly in Pakistan, the majority of the population live in rural areas, and half of these rural residents are women. Agriculture and livestock are the main source of income for rural households. Women are an integral part of agriculture and livestock production system, but recognition of their contribution is very limited. Women in Pakistan contribute equally in agricultural production but their work is rarely recognised; lack of gender sensitive data is one of the main reasons behind this phenomenon (Javed *et al.*, 2006). Recognition of female participation must be translated into better income for women to ensure better living standards, not only for themselves but for their household units. As pointed out by Siddiqui *et al.* (2009) females have extraordinary income generating potential if it is used effectively and females are appropriately trained with technical knowledge and basic skills.

Any development intervention or investment certainly has to be carefully planned and executed to achieve a defined target, which is possible only by ensuring equal gender participation. As noted by Badre (2004), sound development projects cannot be prepared and implemented unless more, fresh gender-sensitive studies, surveys and censuses are conducted regularly. It is important to undertake more research on the process of gender mainstreaming, women's empowerment and rural development.

In Pakistan, approximately 70% of the population resides in rural areas, and these have certain geographic and demographic implications. Majority of the rural communities in Pakistan depend on agriculture for subsistence. According to the Pakistani government (2004), agriculture is responsible for 23.3% of the gross domestic product (GDP) of the country, employs 48% of the labour force, and creates 53% of the country's foreign exchange revenue. Agriculture is a major source of food security in rural areas, providing food for domestic consumption as well as raw materials for agro-industries, and thus it requires great effort and expertise to carry out farming practices in a proficient way.

Women are important partners in the agricultural sector, performing many of the agricultural activities such as sowing, hoeing, weeding, cotton picking and harvesting (Amin, 2010 and Nosheen, 2011). Table 1.1 represents women's and men's share of employment in Pakistan.

**Table 1.1: Pakistan's employment percentage by sector 2008 (%)**

Key employment sectors	Male	Female	Both
Agriculture	35.2	73.8	42.8
Industry	22.6	12.2	20.6
Services	42.2	13.9	36.6
Total	100	100	100

Source: Pakistan Ministry of Labour and Manpower (2009)

As shown in Table 1.1, in terms of sectoral employment in Pakistan, women's participation is considerable. Women contribute in all sectors, and dominate in agriculture (Table 1.1). The Pakistan Ministry of Labour and Manpower (2009) in its employment trends for women noted their strong presence in the agriculture, industry and services sectors. Agriculture is the top employment generating sector providing 42.8% of employment for the country's nationals, including 73.8% of the working female population. However, Pakistan Institute of Labor, Education and Research have reported that this working environment is not favourable for women in either the formal or informal sectors (PILER 2007): women are harassed in the workplaces and discriminated against in wages, even when they work comparatively more hours than men. Less education, lack of skills, and social and cultural

constraints are the reasons behind women's limitations on doing decently paid jobs, and they are forced into less well paid services (Saigol, 2011).

Despite all these hindrances, women constitute a vital share of the labour force in the agricultural sector, participating in poultry and livestock production, crop production, storage, security, transportation and marketing, and to the economic growth of the country (Begum & Yasmeen, 2011; Butt *et al.*, 2010; Jamali, 2009; World Bank, 2010), although their work is unrecognised and undocumented as they are considered family workers (Begum & Yasmeen, 2011). Women face social, cultural and structural constraints such as absence of land ownership, lack of education and training, immobility, and lack of access to credit (Begum & Yasmeen, 2011). To counter these, efforts are required at government level to overcome discrimination against women and facilitate their full entry into the country's economic growth with initiatives to develop their social and economic status and empower them. The government of Pakistan has initiated various projects, such as providing micro-credit, in which the bank-financed Agricultural Credit Project gives women soft loans without disrupting their lives given their general immobility (Saigol, 2011). In line with this objective, Khushhali Bank, established in 2001, particularly focused on micro-finance in the agricultural sector, and on women beneficiaries. A women's section is now operating through the Agriculture Development Bank of Pakistan as a step to integrate women into the Credit Policy Department and support them through education and training. The First Women's Bank, launched in 1989, specifically aims to empower women socio-economically and to cater to their financial needs. In order to bring improvement in the agricultural sector, the Agriculture and Food Ministry was established in provincial governments by the 18<sup>th</sup> amendment to the Constitution of 1973, and consequently provincial agriculture and food ministries along with the National Food Security and Research Centre has initiated steps to enhance gender roles in agriculture to assure food security. As described by World Bank, (2007)

*Agricultural interventions are most likely to affect nutrition outcomes when they involve diverse and complementary processes and strategies that redirect the focus beyond agriculture for food production and toward broader consideration of livelihoods, women's empowerment, and optimal intra-*

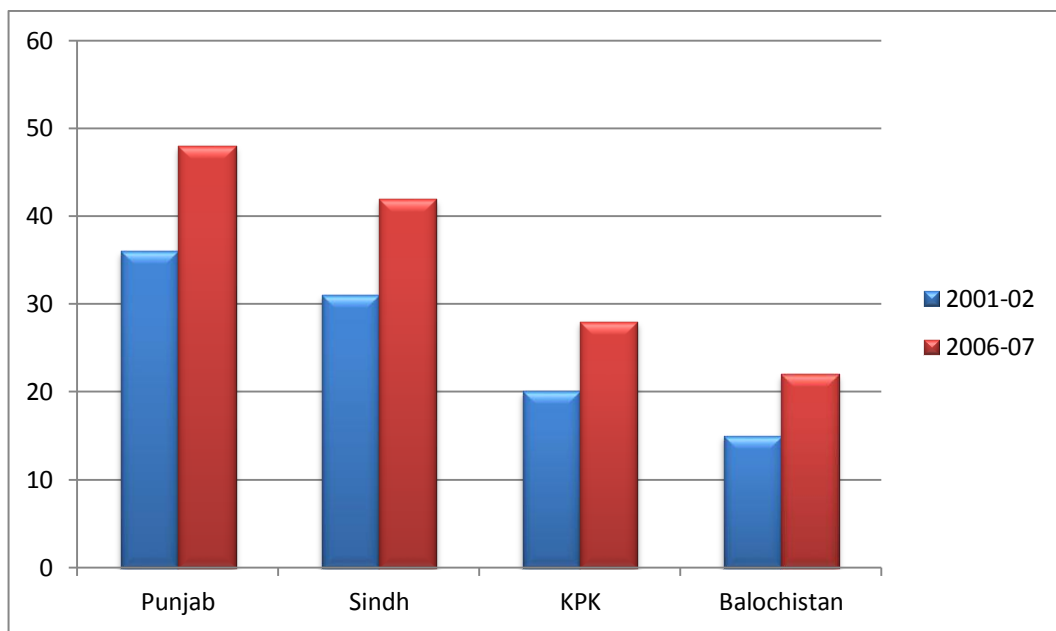
*household uses of resources. Successful projects are those that invest broadly in improving human capital, sustain and increase the livelihood assets of the poor, and focus on gender equality. (in World Bank, 2008, module 1, p. 1)*

Gender inequality is pervasive in Pakistan, which is a male-dominated society (PPPA, 2003). Gender discrimination, regardless of demographic factors, prevails at an individual level in households and at a collective level, in communities and the society. Gender disparities occur in education, health, inheritance and welfare services; along with the lack of opportunities for participation and decision-making for women in economic, social, political and legal spheres. The United Nations human development report (2013) lists Pakistan as 146<sup>th</sup> among 187 countries on human development index (HDI), which is quite low. Women's economic dependency on men reinforces the patriarchal nature of Pakistani society (Sheikh, 2010). The cultural norms that enforce women's subordination affect their psychological status, as they begin to underestimate themselves as inferior creatures. Much effort is required at governmental and non-government organization levels to transform this situation. Gender equality is a millennium development goal, and a prerequisite for achieving other development goals such as a higher literacy rate, better health facilities, and, last but not least, the economic growth of the nation.

The government has devised a strategy to reduce the 'feminisation of poverty', protecting women from gender violence, assuring them of empowerment and acquiring the gender equality millennium development goal as a condition for fulfilling the agenda of the Committee on the Elimination of Discrimination against Women (CEDAW). The National Commission on the Status on Women (NCSW) was founded in 2000 for the monitoring and evaluation of the legal and structural strategies formulated to achieve the prescribed goals. So far the goals have not been reached, and much transformation of the organisational and structural underpinnings of Pakistani society are required before progress can be made. Lack of awareness, failure of political will, and social constraints are the main causes for the slowness in implementing CEDAW.

Education is a main constituent of the development agenda for women's empowerment, and requires immediate attention. The National Plan of Action (NPA) was launched by the Ministry of Education in 1998 to reform education

policy so that primary and middle school enrolment could be increased, and informal education could be initiated for all ages along with adult literacy programmes. Universal Primary Education (UPE) was legislated by NPA in 2001 and was implemented by the authorities in 2003 in those schools where resources were available. School enrolment rates for girls are improving, but in the main, women's social status remains unchanged (PPPA, 2003). Figure 1.3 represents the literacy rate for females during 2001–02 and 2006–07.



**Figure 1.3: Literacy rates for females (10 years & older) by province**

Source: Economic Survey of Pakistan (various years)

As shown in Figure 1.3, efforts at the government level to educate the nation by educating women have affected female literacy rate during 2001-2007. Significant increase in the females' literacy rate was found in every province of Pakistan; female literacy rates increased by 12%, 11%, 8% and 7% in Punjab, Sindh, Khyber Pakhtunkhawa and Baluchistan, respectively.

The government has developed a strategic policy on gender development, in general, and women's empowerment, in particular, and has initiated many programmes designed to uplift the social and economic status of women. These include legislation on the freedom of female prisoners, reforms in trade policy to facilitate young traders, and a project *Jafakush Aurat* initiated in Tharparker to provide

support to women to gain skills and training. Micro-credit were given to poorer and skilled women, so that they can generate income and support their families, with all parts of the agenda geared to strengthen women's political awareness and empowerment through organisational strength and mainstreaming through capacity building measures and educational reforms at basic and higher level. Information and Technology (IT) training projects, making women's participation possible in every field of life by legal authorities, and dedicating 10% quota solely for women in all sectors are steps taken to comply with CEDAW laws and regulations (SDPI, 2008). Furthermore, the National Policy for the Development and Empowerment (2002) aimed to develop policies to ensure women's social empowerment and eradicate female poverty by reviewing educational, health and legal systems and giving women access to education, health, welfare services and productive resources such as credit, land and extension services in agriculture. All these are geared towards developing the capacity of women to be integrated in the political and in various economic sectors. Moreover, government institutions are being obliged to integrate gender sensitive issues in their policies and overcoming aspects of gender discrimination.

The Sindh government launched a land distribution program among landless women in 2008 to provide landless women farmers with productive resources, and to empower them economically. This programme has substantially fulfilled its objective: 70.6% of the people assisted by this programme have been women, and 29.4% men, and between them they have received 41,517 acres land. In addition, the federal government has initiated a housing programme for homeless citizens in rural areas that provide economic autonomy for some women, as the houses are allotted to the female household member. The University of Veterinary and Animal Science has trained women livestock workers to further train womenfolk in rural areas, as part of the programme of poverty reduction and instituting better practices of livestock production (REF). Other services given to women by the Agriculture Ministry include advice on crop production practices and herbs as crop projects. The National Fund for the Advancement of women was also initiated in 2005 as a continuation of women's empowerment, by the Ministry of Women's Development.



Non-governmental organisations are also working in Pakistan for gender equality and women's empowerment, and with an agenda of integrating women in the development process. Many initiatives have been made by non-governmental organisations for women in the agricultural sector. For instance, one NGO, *Shirkat Gah*, has launched a programme named Green Economics and Globalization Programme that oversees women's issues in the agricultural sector, and land ownership and sale rights. *Shirkat Gah* is working on facilitating women with training on better agriculture practices, organic farming and fishing. The Netherlands donor agencies, Interchurch Organization for Development Co-operation (ICCO), and Kerk in Actie have also assisted in rural development, with participatory village development in Sindh focusing on food security, water supply, subsistence, and health and education for women. Similarly, the Department for International Development (DFID), Oxford Committee for Famine Relief (OXFAM), US Agency for International Development (USAID), United Nations Children's Fund (UNICEF) and United Nations Educational, Scientific and Cultural Organization (UNESCO) provide funding in the education sector, where the Society for the advancement of Education (SAHE) and *Idare-e-Taleem-o-agahi* (ITA) in Punjab, KhwedoKor in Khyber Pakhtunkhawa and Baanh, Beli, Sindh Education Foundation and Society for the Community Support for Primary Education, Balochistan (SCSPEB) are all working in education, conducting training workshops, setting up literacy programmes for girls, and establishing non-formal schools for girls. Likewise, the International Labour Organization (ILO) has launched various development programmes on gender equality, gender mainstreaming, human development and women's empowerment. These programmes include promoting gender equality for decent employment, empowering vulnerable groups through employment, education and training (EET) and gender parity in Pakistan (TGP).

Although the Government of Pakistan is sincere in its implementation of various gender development initiatives, there is a lack of systematic data on collecting gendered disaggregated data. Much of the research still do not differentiate on gendered impacts. Hence, it is often left to researchers and academics to focus on this field of study and help in bridging the existing gap with regard to availability of gender-sensitive data in Pakistan.

## **1.2 Women and potato production**

One of the key agricultural commodities in Pakistan is potato. Due to its growing popularity and higher profitability, farmers are now shifting into vegetable production. Potato is one of the leading vegetables, with the highest area under cultivation compared to other vegetables; for this reason it has been specifically selected for this research project.

As population is drastically increasing day-by-day, it is imperative to produce more food for sustainable food security while preserving natural assets and resources. This necessitates the agriculture sector to enhance its productivity and efficiency. Vegetable production is a prominent sub-sector in agriculture and women's vital role in this sector is well observed (FAO, 1995b, 2003). Women provide food for their families in the times of food shortage by doing kitchen gardening and producing vegetables. Women also produce vegetables for household usage and income generation (Olawoye, 1985). It was found that, after rice and wheat, potato is the third largest food crop used for food consumption, as potato production increased to 300 million metric tons (International Potato Center). Potato is an important low-fat carbohydrates source, and a highly nutritious food item. Its importance is boosted by the fact that it is easy to grow them in small fields. It is relatively cheap to purchase and is easily cooked, therefore there is a potential to further expand its production and consumption. Currently, there are over 4300 varieties of edible potato.

Potatoes are largely produced in Peru, Northern Europe, China, Rwanda and India. According to FAO statistics, China is the largest producer of potato, followed by India and the United States. Potato production is increasing all over the world (FAO Statistics Division, 2012). The same trend is observed in Pakistan as potato production reached 159.4 thousand tonnes. The substantial participation of women in potato production was observed in most of the countries where it is produced (FAO, 1995b), as in Pakistan, however, not much studies are conducted on women's role in this area, and hence this aspect needs to be investigated.

### **1.3 Participation and empowerment**

There are numerous examples from both developing and the developed world where women's work recognition and gender mainstreaming worked effectively in achieving women empowerment and rural development.

According to the Commissioner of Agriculture and Rural Development for European Union, Franz Fischler in 2000 (Agriculture and Rural Development for European Union, p. 4), '... for rural development, the integration of equal opportunities will no longer be a choice but an obligation'. Women integration and enhancing their participation is not merely based on increasing opportunities for women but on practical needs for the sustainability and applicability of rural development approach in European countries. According to the European Commission (2000), economic changes introduced particularly in the agriculture sector in accordance with gender mainstreaming approach, stressing more emphasis on increasing women role, were highly successful particularly in southern member states. In Italy and Portugal, more females are observed to be farm managers by their own resultantly increasing their income and improving their status. In Spain, expanding employment opportunities for women are observed in the Agriculture sector. This has led to their increased income levels. Similarly women's ownership of farms has also increased with their partners moving more towards off-farm employment. This integration of women in agriculture not only increased women ownership of assets and increased income but also led to better opportunities for the household as male partners were free to move in other economic sectors. Equality and gender mainstreaming is regarded as guiding principles for rural development programmes and policies for European countries specifically after the adoption in 1996, by the European Commission communication on 'incorporating equal opportunities for women and men into all community policies and activities'.

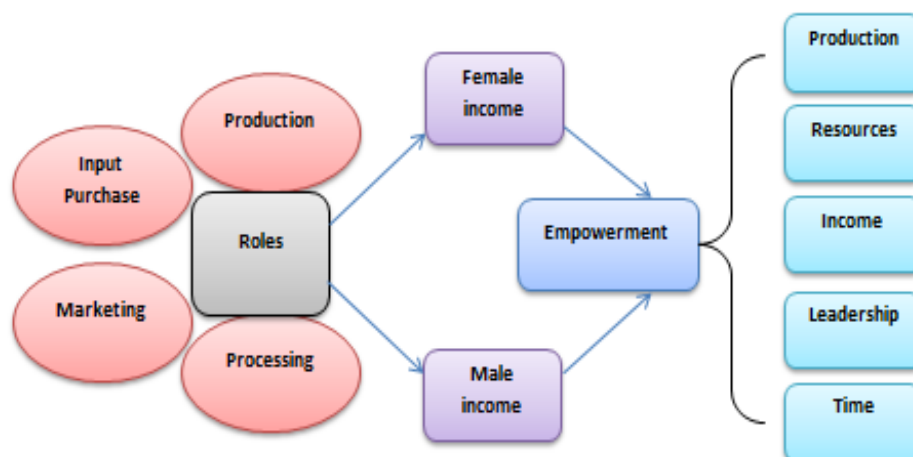
Since the Fourth World Conference on women held at Beijing in 1995, gender mainstreaming has been introduced in development projects in the developed world. For instance, the Governments of New Zealand and Norway issued gender analysis guidelines or statements. Similarly, the Government of Canada adopted a federal plan for gender equality (1995) and committed them to ensure gender mainstreaming for future policies and legislation. All these changes are not only ensuring women increased participation but also positively impacting women status and the development process in these countries.

In developing countries women's role is more critical, especially in the agriculture sector, as their participation is found to be more concentrated in this sector. Similarly, in Bangladesh, the Charles Livelihood Program was focused on women integration and enhancement of their roles and was highly successful in achieving its objective in not only improving women's participation but also resulted in higher economic and social status for women (Scott, 2012).

The Life Changes Foundation in Africa has initiated a women empowerment initiative in Africa based on mainstreaming women in various community and leadership matters and enhancing their roles in the communities by providing them equal opportunities. The project showed positive results with regards to women's empowerment status in the targeted community. Landigam (2011) evaluated the European Union funded development projects in Turkey and concluded that those projects which ensured gender mainstreaming and increased women participation were more successful in their approach. Development strategies incorporating women in development and increasing their roles in various fields have been found to be significant tools for enhancing their income and empowerment status.

Rural areas are however normally different from each other in terms of socio-economic culture, and economic and geographic perspectives. For the same reason, rural women cannot be regarded as homogenous group. Women's needs and the nature of their participation vary depending on social, cultural, economic and religious factors operating in that society. In some countries, including Pakistan, there is still a dearth of information on gender disaggregated data in the rural sector. The need regarding availability of current gender sensitive data for policy and program makers, country specific gender roles in agriculture, and lack of sufficient studies on gender roles in Pakistan, necessitates an investigative study particularly with reference to Pakistan and women's role and participation in productive activities, its relationship to income and to empowerment.

The conceptual framework of the relationship between participation, income and empowerment is given in Figure 1.4.



**Figure 1.4: Conceptual framework of the relationship between participation, income and empowerment**

As shown in the figure, men and women participate in various areas of potato production from input purchase, production activities, processing, and marketing activities. Their participation in these activities are influenced by their gender roles. Their level of participation and recognition of such via paid employment, impacts on income distribution for men and women. Conceptually, their income should lead to empowerment. This however can be influenced by a myriad of factors – cultural, socio-economic and policy factors. The question is in the Pakistani context, does income indeed lead to empowerment of women? This study will examine whether income and participation lead to women’s empowerment.

## 1.4 Research problem

Despite women’s significant contribution to each sphere of life from social to economic, women’s work and contribution are not fully recognised and their potential and capabilities are not entirely utilised. The marginalisation of women’s work and capabilities is resulting in stunted growth and development, for the nation in general, and for rural communities, in particular.

This study considers the role of women in potato farming in Pakistan and will answer the following research questions:

1. What is the extent of the contribution of men and women at different stages of potato production and marketing?
2. Are there income differentials between men and women for potato production activities?
3. Is there a link between participation, income and women's empowerment in Pakistan?

## **1.5 Research objectives**

The main objective of this study is to determine whether participation leads to women's empowerment in Pakistan. The specific objectives of this study are to:

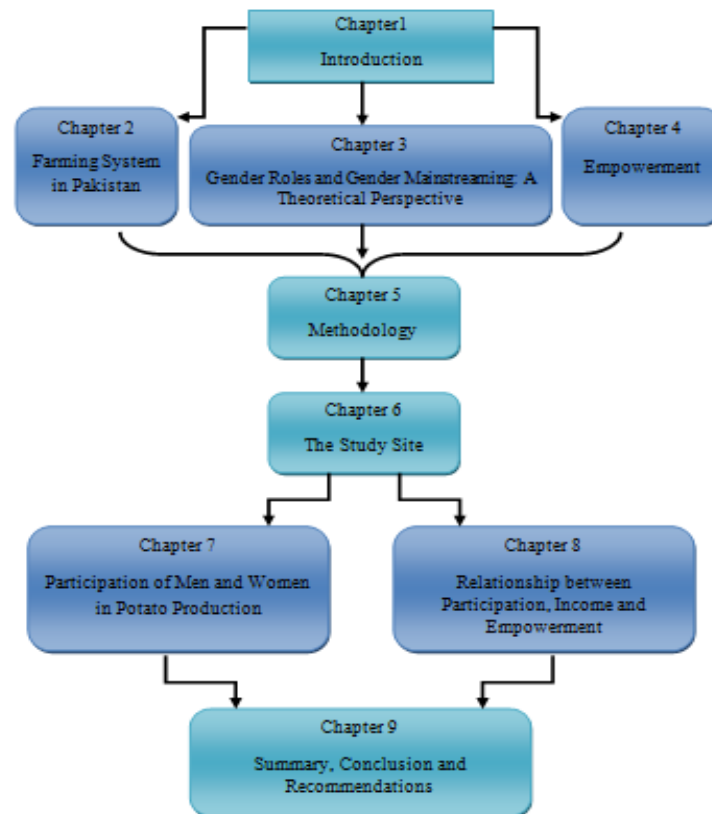
1. Determine gender roles in potato production in Hazara Division, Pakistan;
2. Assess the impact of the participation of men and women at various stages of potato production on household income;
3. Determine whether the participation of women in potato production has led to their empowerment; and
4. Make recommendations for future planning and studies based on the research findings.

## **1.6 Research approach**

A quantitative approach was employed for conducting this research. The rationale and logic for using this particular approach is given in Chapter 5 of the thesis. Quantitative data was collected for analysis using a survey questionnaire. To measure participation or roles in potato production, male and female data were collected in terms of number of hours spent on an activity on a seasonal basis and then aggregated to obtain data on an annual basis. Once participation was measured its relationship with income was ascertained by employing statistical analysis. For empowerment calculations, the IFPRI model was used. Finally, econometric analysis was used to explain the relationship between participation, income and women's empowerment.

## 1.7 Structure of the thesis

This thesis consists of nine chapters. Figure 1.5 is designed to explain the organisation of the thesis in graphical form.



**Figure 1.5: Organisation of the thesis**

As shown in Figure 1.5, Chapter 1 constitutes the introductory part of this thesis. This chapter provides background information on gender issues in Pakistan. It also describes the research problem, questions and objectives. Chapter 2 contains detailed information regarding the farming system in Pakistan and women's contribution to the economy in general and agriculture in particular, based on secondary data.

Chapter 3 is concerned with the concepts of gender, gender roles, and gender mainstreaming, and provides an extensive review of available literature on the subject, while Chapter 4 is devoted to defining and explaining current approaches to women's empowerment.

Chapter 5 explains the methodology employed for conducting this research project and also elaborates on the data analysis. Chapter 6 includes a description of the research site. Chapter 7 is devoted to the results of measuring gendered participation in potato production. Chapter 8 contains an explanation of the relationship between participation, income and empowerment, and includes data calculations regarding the empowerment status of individual respondents. Finally, Chapter 9 is the conclusion of the research thesis and contains the summary of the findings, the conclusion, and the recommendations.



# **Chapter 2**

## **FARMING SYSTEM IN PAKISTAN**

### **2.1 Introduction**

This section is designed to provide detailed information on the farming system in Pakistan, including the female contribution to agriculture and the non-agricultural sector. Section 2.2 provides a general discussion of agriculture in Pakistan, with data relating to its importance to the economy of Pakistan. Section 2.3 contains an overview of the cropping system and farming practices in Pakistan. Section 2.4 reflects on potato production and Section 2.5 on livestock production, while Section 2.6 provides a detailed discussion of women's participation in the agricultural system. Section 2.7 contains the chapter summary.

### **2.2 Agriculture in Pakistan**

Despite a structural shift towards industrialisation in Pakistan, agriculture still constitutes a major part of the economy. According to statistics provided by the Government of Pakistan, agriculture constitutes about 24% of the GDP and employs 47% of the population. Agriculture contributes to foreign exchange earnings, providing about 60% of total export earnings. It supplies raw materials to industries for manufacturing local products. According to Kugelman (2010), agriculture is the main sector satisfying the food requirements of Pakistan's growing population; it is the main source of sustenance for people residing in the rural areas of Pakistan (GOP 2008). Any development in agriculture will not only help the country's economic growth to progress at a faster rate but will also help a large section of the country's population (Government of Pakistan, 2005). Currently, Pakistan exports wheat, wheat flour, rice, raw cotton, cotton products, fruits and vegetables at a rate of 1.8, 0.9, 3.7, 0.14, 3.4, 0.67 and 0.85 million ton, respectively (Pakistan Bureau of Statistics, 2010–11).

In the last decade, Pakistan was a significant exporter of raw cotton. The country is one of the largest producers of cotton, and has developed one of the largest textile sectors in the world. It is also an exporter of high quality aromatic basmati rice

(Dorosh & Valdães, 1990). Fish, fruit and vegetables are also exported but in small quantities, because of inadequate processing, grading and marketing services and poor quality produce (Ministry of Food and Agriculture Pakistan, 1988). Table 2.1 lists the production areas for the major crops in Pakistan.

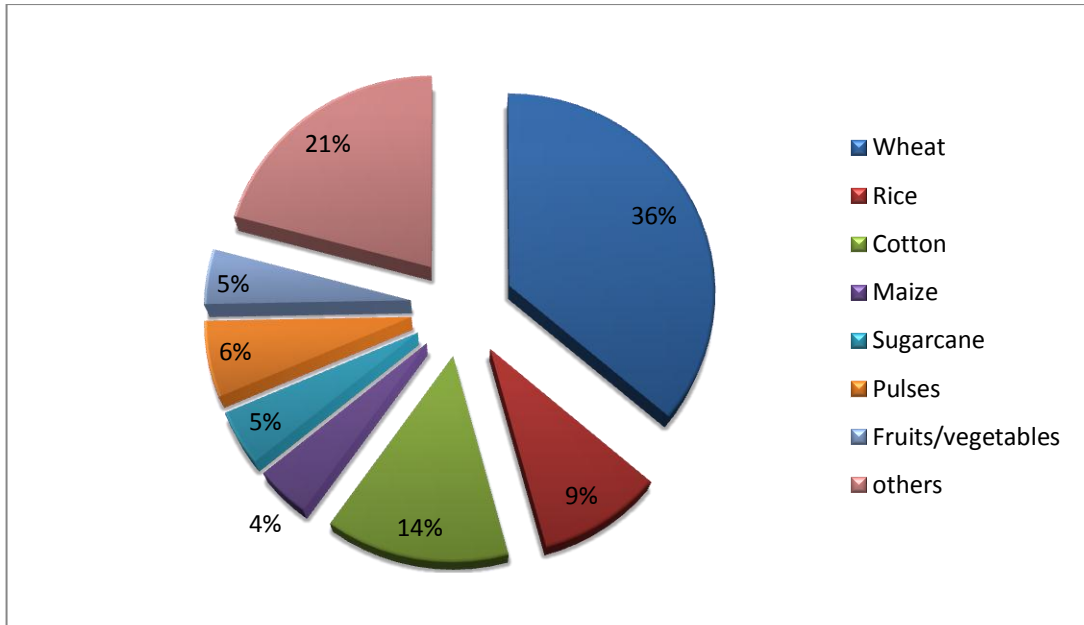
**Table 2.1: Area of production of major crops in Pakistan**

Crop	2011–2012		2010–2011		2009–10	
	Area	Production	Area	Production	Area	Production
<b>Wheat</b>	8666.0	23517.0	8900.7	25213.8	9131.6	23310.8
<b>Maize</b>	1083.0	4271.0	974.3	3706.9	935.1	3261.5
<b>Cotton</b>	2835.0	13595.0	2689.2	11460.1	3105.6	12193.4
<b>Sugar cane</b>	1046.0	58038.0	987.7	55308.5	942.8	49372.9
<b>Potatoes</b>	185.1	4104.4	159.4	3491.7	138.5	3141.5
<b>All fruits</b>	-	-	836.0	6926.6	852.5	6941.3
<b>All vegetables</b>	-	-	252.0	3132.8	249.7	3044.9

Source: Pakistan Bureau of statistics

Wheat, cotton and rice are the major crops grown. Wheat is the number one crop, taking up the highest acreage. It is mainly produced for domestic consumption and contributes 3% to GDP.

Agricultural production in Pakistan is highly dependent on the availability of water. Pakistan currently has one of the largest irrigation systems in the world, popularly known as Indus Basin Irrigation System (GOP, 2011). This system was originally designed around the six major rivers running through Pakistan: the Indus, Jhelum, Chenab, Ravi, Sutlej and Beas. In 1960, after the signing of the Indus Basin Treaty with India, distribution of water rights took place, with Pakistan allotted the three western rivers, the Indus, Jhelum and Chenab (GOP, 2011). These are now the backbone of Pakistan's irrigation system and the lifeline of its agricultural production. Distribution of crops in different cultivated areas is affected by the availability of irrigation. The schematic distribution of cultivated land producing crops in Pakistan is shown in Figure 2.1.

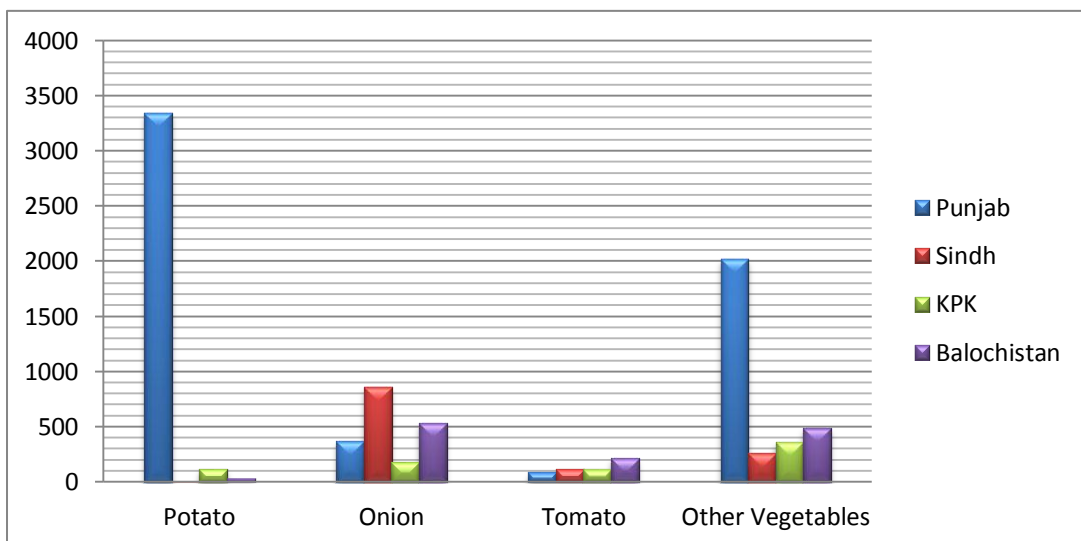


**Figure 2.1: Distribution of cultivated land based on crops in Pakistan**

Source: Ministry of Food

The largest cultivated area (36.30%) is under wheat crop followed by cotton, rice, sugarcane and pulses.

Potato is considered one of the most important cultivated vegetables in the country, as is indicated by Figure 2.2.



**Figure 2.2: Province-wise vegetable production in 2010 – 11(thousand tonnes)**

Source: Agriculture Statistics of Pakistan 2010–11.

Figure 2.2 provides details of total production of different vegetables in 2011–12 and a comparison of four provinces of Pakistan.

### **2.3 Farming systems and cropping practices**

Although a number of academics and experts in the agricultural sector defined the term ‘cropping pattern’, it is generally used to denote a yearly sequence of crops grown on a particular piece of land, and is directly linked to crop selection.

Crop selection is the main focus under a farming system in a given area or region. Some of the reasons for selecting a particular crop or system of crop rotation include irrigation/rainfall, estimated production level, anticipated market rates, household usage, labour requirements, diseases, insects and pests. Traditionally, the cropping pattern in Pakistan follows a two-season pattern, known locally as Rabi and Kharif. Rabi covers most crops or vegetables planted in early winter and harvested in early summer; wheat, barley, oilseed and pulses are a few of the important Rabi crops. Kharif covers those crops and vegetables which are cultivated during early summer and harvested in early winter: sugar cane, maize, rice, and millet are some of the important Kharif crops. A map of the various crop rotations favoured by farmers in Pakistan is presented in Appendix 1.

Farm production has increased substantially since Pakistan gained independence in 1947, with peak periods of production during the green revolution in the 1960s. Various reasons have been given for agricultural production growth, including mechanisation, use of fertiliser, improved seed, access to electricity and electrical machinery, irrigation, and farm credit funding programs (Nasim & Akhlaque, 1992; Tegbaru *et al.*, 2010). Despite this, the agricultural sector generally, and the crop sector specifically, is not yet performing to its real potential. Despite the benefits of good soil, irrigation, and climate, agriculture suffers because there is still inadequate utilisation of its potential resources, leading to unnecessarily low yields per hectare and per unit of water consumed (Water Watch, 2003). Sandhu (1993) claims that there is a significant yield potential in wheat of 74%; paddy 82%; maize 82%; sugarcane 86%; rapeseed 77% and potato 73%, which the country has not yet realised; these large potential yields could be obtained from fertile soil irrigated by the Indus Irrigation System. Another study of Pakistan’s agriculture states that

instead of there being an institutionalised procedure of technical transformation, the country's food supply remains highly reliant on harvests of high quality; consequently it is vulnerable to sharp downturns (Gizewski & Dixon, 1996). Ahmad (1993), Faruqee (1999) and Ali and Byerlee (2002) raise questions about the capacity of the crop sector to meet the challenge of supplying sufficient food and fibre for an increasing population.

High investment costs and low literacy rates affect farmers in Pakistan, who are far from achieving maximum yields or even the potential yields of their crops. Traditional farming practices are still in use. Although mechanisation has greatly transformed agriculture in Pakistan, much more is needed.

## 2.4 Potato production in Pakistan

Potato (*Solanumtuberosum L*) is one of the most widely grown vegetables in Pakistan, and is gaining popularity in farming communities because of its high profitability (Bouis & Scott, 1996). According to the Ministry of Agriculture, the area under potato cultivation was only 3000 hectares at the time of independence (1947) but increased to 112 hectares in 2005; its production has increased from 10.0 to 18.1 tonnes per hectare. There are three major potato growing seasons in Pakistan – Spring, Summer and Autumn, as shown in Figure 2.3 below.

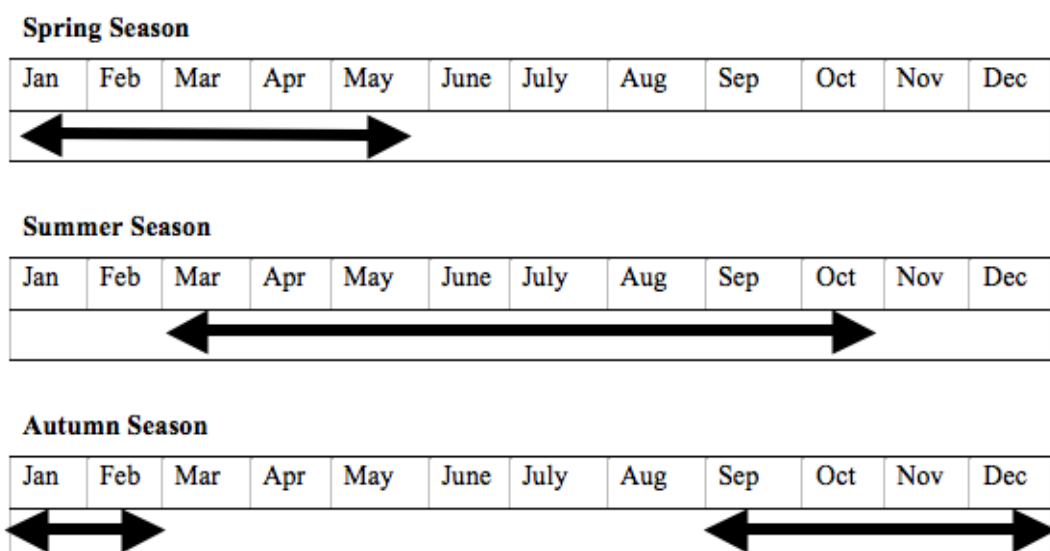


Figure 2.3: Potato planting seasons

The spring season crop starts in January–February and is harvested in April–May. The summer season crop is planted in March–April and harvested in September–October. A third autumn season crop is planted in September–October and harvested in January–February.

The most commonly planted varieties are *desiree*, *cardinal* and *raja* for red-skinned potatoes; and *diamat*, *Ajax* and *Hermes*, white-skinned varieties. Various public organisations involved in potato research and development in Pakistan include the Hazara Research Station Abbottabad; Potato Seed Unit; Department of Agriculture Gilgit; Agriculture Biotechnology NARC, Islamabad and Punjab Seed Corporation, Sahiwal. According to Pakistan Agriculture Research Council (PARC), Okara, Sahiwal, Qasur, Mansehra, and Pishin are a few of the most promising districts contributing to potato production in Pakistan. Table 2.2 lists 10 years of areas under potato production in Pakistan.

**Table 2.2: Production (thousand tonnes) per province under potato production**

Year	Punjab	Sindh	KPK	Baluchistan	Total
2000–2001	1479.7	7.5	118.9	59.6	1665.7
2001–2002	1548.8	3.0	115.6	54.3	1721.7
2002–2003	1761.9	2.5	133.7	48.2	1946.3
2003–2004	1775.2	2.9	119.0	41.0	1938.1
2004–2005	1849.8	2.5	125.1	47.5	2024.9
2005–2006	1389.6	2.6	134.2	41.5	1567.9
2006–2007	2407.5	2.7	129.6	41.8	2581.6
2007–2008	2387.5	2.6	117.2	31.7	2539.0
2008–2009	2782.7	3.0	121.0	34.6	2941.3
2009–2010	2990.9	3.3	113.7	33.5	3141.4
2010–2011	3339.9	3.9	118.2	29.7	3491.7

Source: Pakistan Bureau of Statistics

Punjab is the leading province in terms of potato production, followed by KPK. Although Baluchistan province is the largest province, the potato production is limited because of inadequate soil, weather and irrigational facilities. Punjab derives its name from its geographic make-up, including five rivers. As

irrigation is one of the most important and leading factors in agricultural production, Punjab's natural wealth of water makes it the highest potato producer of all four provinces in Pakistan. Punjab is also the biggest province in terms of population and provides the largest agricultural share to the national economy; it is regarded as the heartland of Pakistan. Table 2.2 shows that although there has been an increase of potato production in Punjab.

The potato production nationally has substantially increased, from 1665.7 thousand tonnes to 3491.7 thousand tonnes, almost double in a decade. Table 2.3 lists the trend of area under potato cultivation from 2000-2001 to 2010-2011.

**Table 2.3: Area (thousand ha) for potato crop since 2000**

<b>Year</b>	<b>Punjab</b>	<b>Sindh</b>	<b>KPK</b>	<b>Baluchistan</b>	<b>Total</b>
<b>2000–2001</b>	87.1	0.8	9.5	4.1	101.5
<b>2001–2002</b>	91.7	0.4	9.4	3.7	105.2
<b>2002–2003</b>	102.2	0.3	10	3.3	115.8
<b>2003–2004</b>	97.1	0.4	9.4	2.8	109.7
<b>2004–2005</b>	98.8	0.3	9.6	3.3	112.0
<b>2005–2006</b>	104.5	0.3	9.8	2.8	117.4
<b>2006–2007</b>	120.7	0.3	9.6	2.8	133.4
<b>2007–2008</b>	142.0	0.3	8.9	3.1	154.3
<b>2008–2009</b>	133.2	0.4	9.1	2.3	145.0
<b>2009–2010</b>	127.2	0.4	8.7	2.2	138.5
<b>2010–2011</b>	148.1	0.4	8.9	2.0	159.4

Source: Pakistan Bureau of Statistics

As Punjab is the major contributor in terms of both area under cultivation and volume of production, it is the most important province in terms of potato crop in particular. KPK is the second most important in terms of its contribution to the national share, followed by Sindh and Baluchistan. As bringing more land under cultivation is difficult, strategies to promote and enhance production per unit area and crop diversification are the focus of national policies.

There are some issues in potato production which limits its choice by farmers for cultivation. These reasons include a high susceptibility to disease, especially fungal

disease, to insect and pest attacks, the availability of storage facilities, marketing factors, high fluctuations in market prices and high irrigational requirements. Despite these reasons, overall figures indicate there has been a significant increase in potato production, from 101.5 thousand hectares, in 2000–01 to 159.4 thousand hectares in 2010–11 at the national level in Pakistan.

To further elaborate the scope of potato production in Pakistan it is important to present data regarding average yield per hectare. Table 2.4 presents data on average yields by province.

**Table 2.4: Potato: average yields since 2000, by province (tonnes/ ha)**

<b>Year</b>	<b>Punjab</b>	<b>Sindh</b>	<b>KPK</b>	<b>Baluchistan</b>	<b>Total</b>
<b>2000–2001</b>	17.0	9.4	12.5	14.5	16.6
<b>2001–2002</b>	16.9	7.5	12.3	14.7	16.4
<b>2002–2003</b>	17.2	8.3	13.4	14.6	16.8
<b>2003–2004</b>	18.3	7.3	12.7	14.6	17.7
<b>2004–2005</b>	18.7	8.3	13.0	14.4	18.1
<b>2005–2006</b>	13.3	8.7	13.7	14.8	13.4
<b>2006–2007</b>	19.9	9.0	13.5	14.9	19.4
<b>2007–2008</b>	16.8	8.7	13.2	10.2	16.5
<b>2008–2009</b>	20.9	7.5	13.3	15.0	20.3
<b>2009–2010</b>	23.5	8.3	13.1	15.2	22.7
<b>2010–2011</b>	19.1	8.4	13.4	39.9	18.5

Source: Pakistan Bureau of Statistics

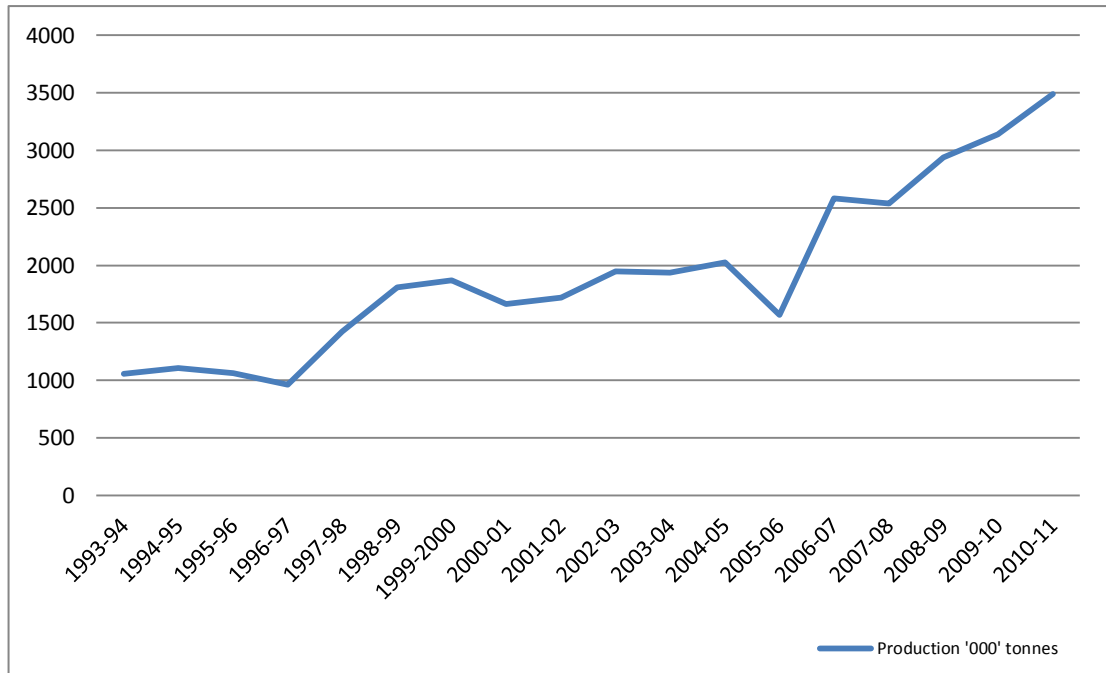
As shown in Table 2.4, the average yield is highest in Punjab and lowest in Sindh. Considering the per-hectare yield on a provincial basis suggests that for all four provinces there is a steady increase in recorded figures, except in Sindh where a slight decline is recorded. However, the national average has steadily increased from 16.6 tonnes/ha in 2000–2001 to 18.5 tonnes/ha in 2010–2011.

This average yield is far lower than that achieved in the developed world and top exporting countries, which indicates that Pakistan’s yield potential is not yet fully exploited. The failure to achieve a greater yield can be ameliorated by using



certified and healthy seed, adopting modern agricultural practices, making proper use of fertilisers and implementing better pest and disease control.

The production trend shown in Figure 2.4 during past two decades confirms the above statistics. As shown in the figure, there is a steady increase in yield during 1993 to 1997, with a slight abrupt increase during 1997 to 2000. Since 2000 a peak increase in per-hectare yield for potatoes has been recorded.



**Figure 2.4: Potato production in Pakistan**

Source: Pakistan Bureau of Statistics

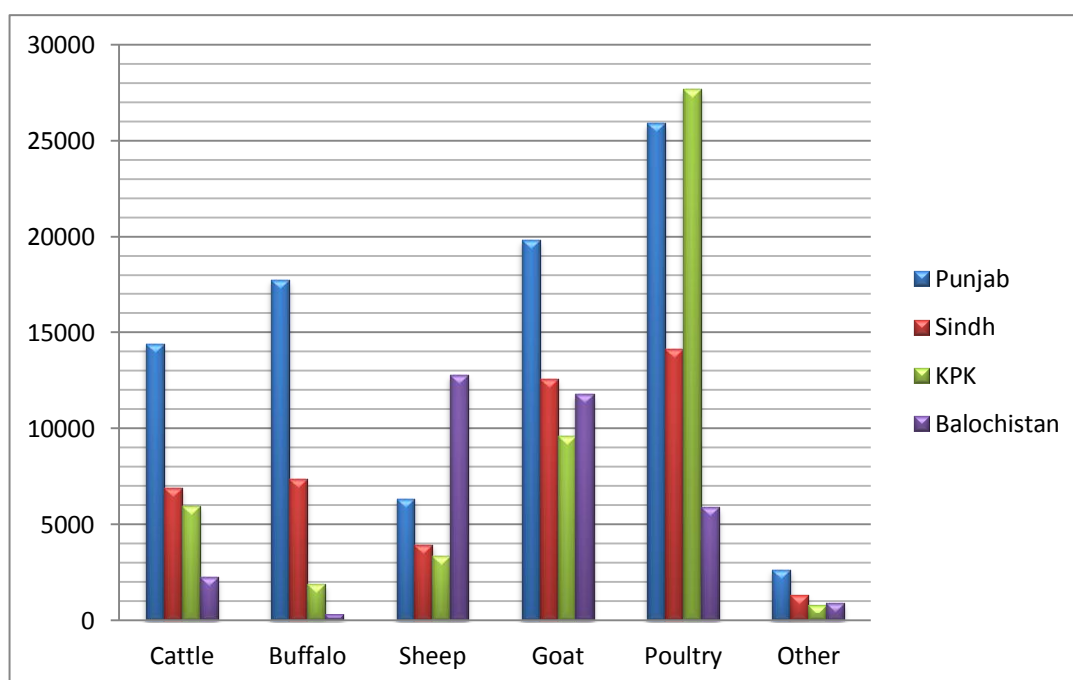
## 2.5 Livestock

Livestock is a major source of earnings in rural areas of developing countries across the world (Belaid & Morris, 1991; Heffernan *et al.*, 2001; McCorckle, 1987). Pakistan is no exception, and many rural households depend on livestock for their livelihood (Ijaz, 1993).

The livestock sector contributes to rural household incomes by providing meat, beef and chicken to the nation’s growing population. Pakistan is ranked as the fourth largest milk-producing country in the world. Cattle, buffalo, sheep, goats and camels all are raised for their milk, but cattle and buffalo are the most popular. The

livestock sector also provides hides for the leather manufacturing industry, the second largest export earner after textiles and with a huge potential to increase exports by ensuring quality and focusing on product diversification.

The livestock sector is an important part of rural economic activities. Rural households that are engaged in agriculture or crop production are usually involved in livestock raising as well. One indication of the importance of this sector is that the Economic Survey of Pakistan 2011–12 highlighted it as a tool for poverty alleviation and uplifting the socio-economic status of rural residents. The survey particularly encouraged increasing per-unit animal productivity and shifting from a subsistence approach to a more market-oriented approach. Figure 2.5 lists the number of animals in Pakistan; a provincial breakdown is presented for comparison purposes.



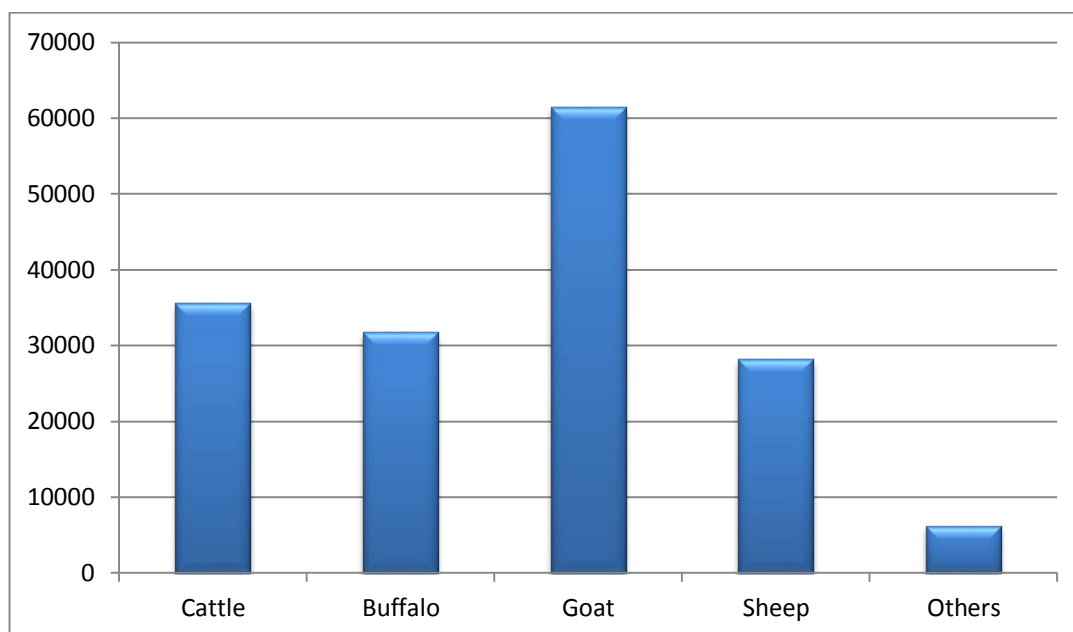
**Figure 2.5: Province-wise livestock population in 2006 (thousands)**

Source: Agriculture Statistics of Pakistan.

The Pakistani Government conducts a national animal count every ten years. The data used in this chart is based on a local animal count called *mali shumari*, which was conducted in 2006. Punjab is the leading province in Pakistan with regard to the number of animals, followed by Sindh and Khyber Pakhtunkhawa. As shown in Figure 2.5, cattle and buffalo are predominant in the large animal category, while

there are more goats than sheep in terms of animal headcount. Poultry raising is also common and makes a significant contribution to rural household income.

The last animal count was conducted during 2006; the estimated population of various animals for the year 2010–11 is given in Figure 2.6.



**Figure 2.6: Estimated livestock population in Pakistan 2010–11 (thousand head)**

Source: Agriculture Statistics of Pakistan 2010–11.

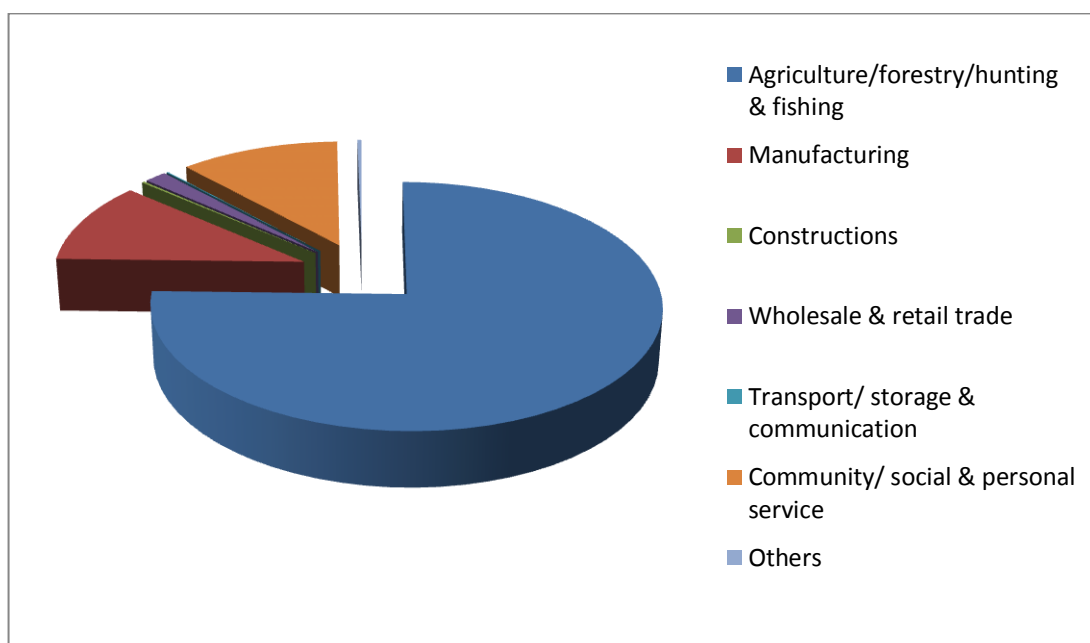
As shown in Figure 2.6, cattle is estimated to be the most common large animal with 35,568 estimated number of thousand heads as against 31,726 estimated number of thousand heads buffalo, and goats are much higher in number with 61,440 estimated number of thousand heads as against 28,086 thousand heads for sheep in the case of small animals.

## **2.6 Women’s participation in the agricultural sector in Pakistan**

The overwhelming majority of Pakistan’s labour force is employed in the agricultural sector, in response to the geographic and demographic conditions of the country. Approximately 70% of the population resides in rural regions, and the high employment rate of 45.1% in agriculture remained constant during the period 2010–11 (GOP, 2012). Males are predominantly involved in the services sector, while

women’s participation is more concentrated in the agricultural sector. This fact highlights the importance of the agricultural sector for women residing in rural areas.

Female participation in these sectors is shown in Figure 2.7.

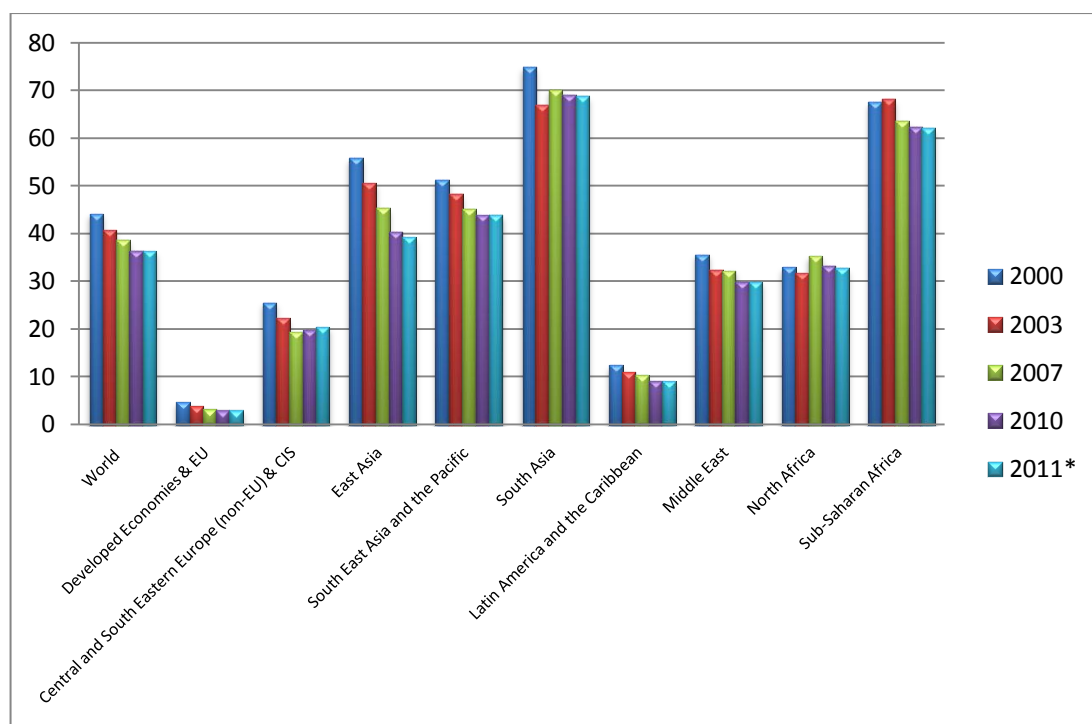


**Figure 2.7: Female employment share by sector in 2010-11**

Source: Pakistan Bureau of Statistics, LFS 2010-11

As shown in the figure, approximately 75.4% of all paid women workers are employed in agricultural activities. Furthermore, manufacturing, construction, wholesale and retail trade, transport/storage and communication and community/social and personal services also provided employment for 10.9%, 0.2%, 1.6%, 0.1 and 11.5% of paid women workers, respectively. In addition, employment offered by transport/storage and communication community/social and personal service each declined by 0.1% during 2008–11, manufacturing and construction sectors decreased their employment capacity by 1% and 0.2 % during 2008-2011 (GOP, 2012).

Majority of women labour force is employed in agricultural sector all over the world. Figure 2.8 shows their participation level in agriculture sector in the world during 2000-2011.



**Figure 2.8: Women share in employment in agriculture: world and regions (%)**

\* 2011 are preliminary estimates.

Source: ILO, Trends Econometric Models, January 2009 and October 2011

Figure 2.8 represents women's participation in the agricultural sector worldwide. Women are seen to be the highest employed in South Asia (68.8%) and sub-Saharan Africa (62.1%), and to make a significant contribution in South East Asia and the Pacific (43.9%), East Asia (39.3%), North Africa (32.7%) and the Middle East (29.9%). This participation exhibits a declining trend during 2000-11, from 44.1% to 36.2% all over the world – although not consistently: while women's employment in agriculture decreased in South Asia, sub-Saharan Africa, East Asia, South East Asia and the Pacific and Middle East by 6.1%, 5.4%, 16.5%, 7.3% and 5.7% respectively; it increased by 2.4% during 2000-07 in North Africa, but declined by 2.5% till 2011.

The decline in employment in agriculture suggests that the significance of this sector in the provision of food and livelihood has declined, which may explain the food crisis prevailing in the current time. It is imperative that state actors and international associations concentrate on this sector. The immense capacity of the agricultural sector to lead to poverty eradication is noteworthy internationally, as it is the sole provider of labour in the poor rural areas of almost every region in the

world. Moreover, it is a way out of gender inequality, as a majority of women have been working in agriculture and supporting their families by their earnings for many decades.

## **2.7 Conclusion**

The agricultural sector is the most vital and promising sector in Pakistan and the majority of people in the labour force are dependent on agriculture for their livelihood. Females, who make up more than 50% of the rural population, are an integral part of the agricultural system in Pakistan. Their contribution in Pakistan, as is true elsewhere in the world, is concentrated in the agricultural sector. Any attempt intended to uplift women's status should therefore focus on this area.

Although this chapter outlines women's participation in and their in the agricultural sector, a comprehensive review of gender studies is required to acquire a deeper understanding of the function of gender roles in agriculture. The next chapter focuses on gender, particularly on the importance of gender and the challenge of gender mainstreaming.

# **Chapter 3**

## **GENDER ROLES AND GENDER MAINSTREAMING: A THEORETICAL PERSPECTIVE**

### **3.1 Introduction**

In this chapter a comprehensive overview of the literature is presented, intended to provide a clear description and understanding of gender analysis, first in the global context and then with particular focus on Pakistan. Gender analysis strives to understand the roles and responsibilities attributed to different genders, and to evaluate the opportunities and capacities provided for each gender. This analysis examines varying behaviours of men and women around the globe.

This chapter has eight sections that highlight distinct dimensions of gender. Section 3.2 explores the definition of gender. Section 3.3 then highlights gender roles in society. Section 3.4 shows women's role in agriculture, followed by Section 3.5 which focuses on women's role in crop production, Section 3.6 considers women in vegetable production, and Section 3.7 in livestock production. Section 3.8 then discusses the importance, opportunities and problems of gender mainstreaming. Finally, Section 3.9 concludes the chapter.

### **3.2 Gender definition**

Defining a particular issue under discussion or study is of prime importance because it not only provides the opportunity to narrow the scope of a phenomenon from a universal to a context-specific level but it also provides an agreed platform for future discussion. The word 'gender' is defined here to provide the basic grounding of the study that follows.

Literature elaborates the word gender in various contexts. According to the World Bank (2013), gender is a term to denote socially constructed differences between men and women. UNDAW (1999) affirms this definition of gender. According to

Philips (2005), it is necessary for men and women to adopt diverse social roles and responsibilities in varying contexts in a particular society and era. The World Health Organization (2013) described the idea of gender as a conceptualisation of characteristics, roles and responsibilities attributed to men and women, while FAO (1997) defines it as the relations between men and women, both perceptual and material. As defined by FAO (1997a),

*'gender is not determined biologically, as a result of sexual characteristics of either women or men, but is constructed socially. It is a central organizing principle of societies, and often governs the processes of production and reproduction, consumption and distribution'* (FAO, 1997a, p. 1).

Referring to gender solely as a women's attribute is a misconception. Rather, gender is about women and men and their mutual relationships, identifying their respective roles in society and considering the incentives and opportunities provided for their development and the services provided to improve their social status.

### **3.3 Gender roles in society**

In a social context, World Health Organization (2013) recognises gender roles as a defined collection of cultural and social values and standards set by society and found pertinent for men or women. However, debate arises whether the differences in roles assigned to men and women are based on psychological or biological foundations, or are due to the instinctive nature of an individual's personality in response to the social impact of the culture in which they exist.

Men and women are shared partners of society, and play equally in its betterment. Women contribute substantially in productive and reproductive activities, in the household and outside (WHO, 2013 and World Bank, 2013). Pilcher and Whelehan (2004) describe 'traditional' domestic gendered division of labour as assigning men the responsibility of providing financial support to their family, which often required them to labour outside the home to generate income; while women primarily had to manage the household and perform related activities such as cooking, cleaning, laundry, shopping and caring for children.



In rural Pakistan, the presence of traditional and cultural norms limits women's roles to within the home, where they pursue the reproductive roles as mothers or wives as described by Pilcher and Whelehan (2004) along with other domestic tasks. However, they are also expected to support their husbands in the fields (Qamar, 1990). Memela (2005) argues that there is discriminatory behaviour in the context of responsibilities assigned to women, as they are obliged to stay home and carry out household chores from an early age. Young girls have to clean the home, and perform cooking and washing activities. In Pakistan, women dedicate a considerable amount of time to household production. Women's contribution is controlled by rigid gender roles, and enforced further by social and cultural constraints on their freedom of movement (Nazli & Hamid, 2007). Jehan's (2000) study of the role of women in Pakistani society reveals that women have a variety of cultural, social and economic responsibilities in addition to their assigned household chores. In rural areas, the situation is even more difficult as women have to perform day-to-day family maintenance activities like food preparation and household safety, rearing children, fetching water and fodder from distant areas and providing fuel, and they also have to play a role in the rural social structure by making handicrafts, mats and pottery at home. Furthermore, they are expected to lessen the burden of male family members by doing activities pertinent to crop production and livestock production; and they are culturally and socially bound to serve their husbands. Although few statistics based on such gendered activities are available, Rasheed (2004) and Amin (2010) confirm these observations. The same observations were found by Brahmanand *et al.* (2000) in India.

Amin *et al.* (2009) examined the capabilities and role of rural women in Tehsil Faisalabad, Pakistan and found that women were performing well in more activities than men; their participation varied according to the nature of the activity, social and cultural restraints and their levels of skill and education. Women were found to be active and proficient in all tasks at the household level, including child and family health care, fuel collection, handicraft making, livestock management and poultry husbandry; their competency was less in social and political matters and in crop production compared to their menfolk, and the reason given was the lack of opportunities and the presence of social and cultural limitations.

With the growing needs of the current era, women have had to become a part of economic activities in general, to assist with income generation for their families while still performing their traditional domestic duties in urban, and perhaps even more in rural, regions all over the world. FAO (1995b) reports the total time spent by women in various activities in their daily routine. Women in Cyprus, Jordan, Lebanon, and Morocco spend up to 11, 15, 14, and 12 hours a day, respectively, in domestic and agricultural work. In Egypt, women spend 4.4 hours a day in domestic chores, 1.2 hours in livestock production, and 1.1 hours in crop production. The situation is worse in Yemen, where women spend 12 to 16 hours a day in domestic chores, 5 hours a week fetching fuel and 4 hours a day fetching water. In most developing countries, women are expected to remain inside the boundaries of their homes, and have restrictions on their mobility imposed by cultural and social constraints. Inadequate education and training skills, and lack of decision-making authority are at the base of women's low level of participation in various fields of life (Nosheen *et al.*, 2008).

Women's many roles in society clearly manifest their importance and contribution in a social context. Their contribution in the agricultural sector, as indicated by the researchers mentioned above, needs to be explored to highlight their significance in this sector.

### **3.4 Gender roles in agriculture**

Agriculture is a mainstay in economic investment, livelihood and employment activities in rural areas in most countries. Around the world, under increasing globalisation, mechanisation and commercialisation of agriculture, agriculture offers one of the best means of developing rural viability. As was emphasised by Lipton (2005) and the World Bank (2007), agriculture is the mainstay for poverty eradication in most developing countries and especially in sub-Saharan Africa and Asia. These studies are in line with the World Development Report (2008). According to the 2008 World Development Report, agriculture is the backbone of economic growth in any country, and it can be used as a tool for poverty reduction, but poverty eradication cannot be accomplished without studying gender roles in

agriculture (Bourguignon, 2008; Byerlee *et al.*, 2009; Birner & Resnick, 2010; Christiaensen *et al.*, 2011).

Agricultural development is an important part of rural development. Byerlee *et al.* (2005) revealed the vital impact of the agricultural sector in the development process. Agriculture not only significantly amplifies economic growth but also has certain features contributing in other spheres. For instance, it provides a great source of livelihood and labour to a majority of the world's population residing in rural areas, and ensures food security for the world for a vast majority of the population both in rural and urban areas (Rola-Rubzen, Hardaker and Dillon 2000). As emphasised by Romero–Paris (2004), the majority of Southeast Asian countries reside in rural areas and their dependence on agriculture is natural. However, the phenomenon of agricultural development is a composite one, and starts with studying gender roles in agriculture.

Agricultural production is a complex process and it involves many activities which are arranged step by step and divisible into many parts. Hence agricultural production can be regarded as, a multi-dimensional and dynamic process, in which each part is lined with other parts either indirectly or directly. These areas may include inputs access, asset ownership, resources utilization, labour, access to credit, and decision-making authority. Gender sensitive studies of these interrelated issues are essential to understanding the issues of equitable and sustainable rural development, gender roles and women's empowerment in agriculture.

Women make up about half of the population; they have to play a more essential role in its development. Women are responsible for the subsistence farming that provides food for their family, as has been noted by Doss (1999) and Pitcher (1996). Women not only participate in food production but also are responsible for processing and storage of food, along with their traditional household work. Due to women's considerable role in farming, they can be regarded as the backbone of economic development in rural areas, in particular, and the country, in general (Ukpongson & Mathews-Njoku, 2003). FAO (2003) reports that in developing countries, one third of the population are women farmers, responsible for food provision and food safety for their household.

In the general context of developing countries, Morvaridi (1992), Regmi and Weber (1997) and Ziso (2009) argued that agriculture occupies a very important part of the national economies and women's contribution in these activities can further enhance its importance and contribution. Kazgan (1993) has affirmed women's vital role in agricultural development. Rural women particularly contribute in the agriculture production, and their contribution is important to consider (Fresco, 1998). Kazgan (1993) has found women's vital role in food production and revenue generation in Turkey, as they share the work burden in the fields with men while retaining sole responsibility for their household duties. Antholt and Zijp (1995) find the same results in Asia. Ozkan and Ozcatalbas (2003) studied the role of women in agricultural production in particular reference to Turkey. They mainly used secondary data for their research which explained and compared the men and women in rural areas. Their research findings indicated that agricultural production, animal husbandry and food marketing are mostly dependent on female work in particular.

Women's vital contribution in the agricultural sector is verified by Ogato *et al.* (2009) in Ethiopia, where they found a considerably greater share of women in agriculture-related activities than men. The findings of Ogato's research strengthen the fact that women make a greater contribution to development: Ogato found that 87.2% of women respondents reported that they contribute additional work in agricultural activities apart from domestic work. Similarly, Olumakaiye and Ajayi (2006) found that in rural regions of Africa, women carry out household as well as field work, and their contribution is significantly high and particularly concentrated in agricultural activities. According to Ajuonu (1999), women farmers in West African countries and Uganda are participating efficiently in many activities from pre-harvest to post-harvest, and are involved not only in food production but also in food storage and marketing. Abera *et al.* (2006) found joint collaboration of men and women in farming activities to be vital in rural Ethiopia in order to assure household food security.

Grellier (1995) asserts that women's contribution to economic growth is imperative as they play an important role in the agriculture sector in sub-Saharan Africa. In an investigation in Nigeria, it was concluded by Fabiyi *et al.* (2007) that women play a significant role in the agricultural sector as well as having to carry out their

conventional roles in household chores and social matters. Franklin (2007) conducted a survey in nine African countries and confirmed the highest concentration of female participation is in the agriculture sector as compared to other sectors. It is a universally accepted fact that women are performing well in agricultural activities, not only accomplishing household chores, reproductive and child-rearing activities, but are also sharing the burden of men in agricultural activities, from production to marketing (Yisehak, 2008). Women do participate in decision-making in farming practices from seed selection to time of harvest, along with decisions about credit utilisation and food for their families (FAO, 1996). Gao (1994) notes that in China, rural females are effective workers in crop farming, and are engaged in time-consuming farming activities but rarely consulted in decision-making in agricultural activities. A similar situation was found in the Philippines (PPI, 2004).

According to an FAO report (1995b), in various rural regions in the world, women are predominantly responsible for agriculture and hence share the responsibility for food provision to the world. Globally, women are participating dynamically in many agricultural activities such as the preparation, production, processing and preserving of foodstuff and other farm products. The gender-based contribution to agricultural activities differs according to the situation and type of activity, so that men and women allocate and share tasks in crop, livestock, fishing and forestry in some cases, but have distinct responsibilities in other cases. For instance, application of fertilisers and pesticides may be exclusively done by men, while weeding is done by women (FAO, 1995b). Prakash (2003) argues that men contribute predominantly in activities demanding high physical labour, whereas less physical labour but more time-consuming activities are performed exclusively by women. The findings of Satyavathi *et al.* (2010) are in line with those of Prakash.

Women comprised of 36.2% of total female labour force working in agriculture sector in 2011 (ILO, 2012). For instance, Women's participation in agriculture is recorded as highest in Asia and Africa: in sub-Saharan Africa 62.4% of the female labour force is engaged in farming activities; while in South Asia the proportion is 69.1% (ILO, 2012). FAO (1995b) reported that 66%, 53.2%, 55.3%, 40.7%, 50.7%, 34.7%, 28%, 44%, 34.7% and 30.7% of women in Somalia, Morocco, Turkey,

Lebanon, Egypt, Sudan, Mauritania, Cyprus, Tunisia and Iraq, respectively, are estimated to be paid or family workers in the agricultural sector. According to ILO (2000), women's presence in the agriculture labour force has been found to be 80% in Kenya, 73% in Congo, 65% in Afghanistan, and round about 40% in Zimbabwe, Latin America and the Caribbean. Meanwhile, women constitute 44% of the paid labour force in Syria, whereas their share of unpaid labour is 60%. However, the Government of Pakistan (GOP, 2007) reports that the female paid labour participation rate is 18.9%, while men's is 71.97%. It was reported that, women constitute 53.1% and 49.9% of the European Union and Central Europe work force, however, their share in the agricultural sector in the respective regions were only 2.9% and 19.8% (ILO, 2012). Karl (1996) verifies women's contribution to food production and food security in Asia. Satyavathi *et al.* (2010) reveals that 74% of the female labour force is predominately engaged in agricultural activities and have to work in the off-season. According to the World Bank (1991), there is a better female employment rate in India in relation to the agricultural sector, as 84% of the female labour force is associated with agriculture. As was found by Kaur & Sharma (1991) and Unnevehr & Stanford (1985), Asian women are dominant participants in the agricultural sector.

Even though women's roles depict their importance in the agriculture sector, the first question which needs to be answered is whether there is any significant difference in production efficiency between male and female farmers.

Quisumbing (1995) analysed male and female production efficiencies in Africa, Latin America and Asia, and concluded that in general, males and females were equally efficient in their roles as farm managers; but women farmers' lower yields were not related to their working efficiency but were attributable to lower usage of financial capital and inputs. More recently Timothy and Adeoti (2006) found that the large differences in production from men's and women's plots in rural south-western Nigeria were not due to gender itself but to the women's limited access to and use of inputs. A similar point of view is given by Mathijs and Vranken (2001) who confirmed the success of female-managed farms over male-managed farms in Bulgaria and Hungary. From these works, it can be determined that sex is not a

factor limiting production; in fact, in some cases, women farmers are producing better yields than men.

Despite of their huge contribution in agricultural activities Ajuonu (1999) found that women are still experiencing difficulties in the accomplishment of agricultural tasks in Nigeria. These difficulties in performing their tasks originate from cultural, social and economic sphere of life and caused immobility, economic dependency and lack of decision making power. In this regard, Fabiyi *et al.* (2007) argued that the dual burden of productive work in the field and reproductive work at home continues to remain a challenge for Nigerian women particularly in recognising and advancing their potential. This makes their life hard, and as they get insufficient acknowledgment for their work, they remain underprivileged in their social and economic status. Morrison *et al.* (2007) recognise this lack of recognition and find that less education and lack of training, inadequate resources, no access to capital or land, and the lack of decision-making authority create women's deprived condition.

According to Women of Work (2007), women's contribution to agricultural production and national growth is significantly high but is unrecognised in national statistics. They remain unpaid or less privileged actors in society. Women assure food security and grow vegetable in their homes to provide vital nutrients and food in days of food shortage, but they are considered helpers and not active participants of progress. It was concluded that non-recognition of their work is a main issue that hinders the women's effective participation. Jiggins *et al.* (1998) affirm these findings. The fact is that women comprise a significant portion of the agricultural labour force, with two-thirds of them working as paid or unpaid labourers in developing countries, however, their unpaid work is mostly undocumented and unrecognised (Garcia, 2004). As stated by Zaccaro (2011), women are the major contributors in the agriculture sector: 50% of the food which is produced has key work component from females which is then consumed across all the continents. Their role in agricultural production is vital and their contribution to work is increasing with time, but their work is 'unrecognized and undocumented' (2011, p. 263) in particular, Zaccaro refers to the Asian farmers' Association for Rural Development, but she also cites examples from Latin American countries. Their delicate and dangerous situation can be evaluated from the fact that women who

currently have ownership of the land and other resources are limited to only 1%. Agarwal's (1998) argument affirmed Zaccaro's findings; according to Agarwal (1998) the contribution of Asian women in the agricultural sector is mostly unacknowledged.

Similar constraints to women's effective participation, including deprived economic conditions, cultural restraints, lack of resources, no land rights, and poor education and extension services were found in Taiwan by Du (1999). He reveals that women have no authority to make decisions in farm activities, and the burden of work in homes lessened their capacity to work in the fields. In this regard, Ozcatalbas (1999) too finds an underprivileged status of women in developing countries, and argues that this situation is worsening with time. FAO (1995b) reports that women are not participating in decision-making at local or state level, in developing countries in general and in African countries, specifically. The report further reveals that women's participation in the agricultural sector is overlooked, and their problems are not resolved because women's access to extension services was limited and lack of resources was an ongoing dilemma for them. Women have no land ownership rights, and are not consulted in any agricultural development process. This situation prevails in Asia as well, where women have limited possession of land and minimum resources in hand, as is found in Pakistan and India by the Japan International Cooperation Agency (1999). Similarly, Ogunlela and Mukhtar (2009) have observed women's discriminated condition in Nigeria, where women are vital source of agricultural activities, however, their contribution is yet to be recognized. The deprived economic condition of women worsens their social status, as well as their say in making decisions in any issues concerning rural development or agriculture sector. Women have less access to assets and productive resources, hence, requires government and non-governmental organization's intervention in this regard. Doss (1999) affirmed their findings, as limited access to resources was limiting women's productivity in the agricultural sector. IFAD (2001), affirms the deprived condition of women engaged in agricultural activities. Although, according to the legislation in Vietnam, there is no gender discrimination in land rights, the reality is not so true as was argued by Ngwira (2005) and Li (2002). A similar underprivileged condition is found in the Philippines, where women are paid less than men for the same activity, and have inadequate land and agricultural resources (PPI, 2004). Satyavathi



*et al.* (2010) find the same situation in India. Women face many constraints; even their contribution is not fully acknowledged (Fafchams & Quisumbing 1999; Humphries *et al.*, 2000). Due to all these limitations, women are lagging behind in economic development.

Rangnekar's (1998) report shows a decrease in the number of females working in agriculture in India. According to him, 78% of women are engaged in farming activities, but are facing constraints in agricultural activities and livestock husbandry because of social, cultural and environment conditions. Rahman (2000) notes restricting factors in the participation of women in economic growth in Bangladesh, with women restricted to their homes during pre-harvest activities but their labour utilised in post-harvest activities. These findings are in agreement with Abdullah (1985) and Begum (1985). The statistics on farming activities in South Asia conceal the real contribution made by women (FAO, 1995b), as often, women's contribution are unpaid and under recorded.

Garikipati (2009) studied the relationship between feminisation of agriculture markets and women's empowerment with particular reference to India and finds that although females are making a large contribution to family income; they have limited ownership of productive resources and lands. Other researchers have looked at this relationship from different perspectives, like Shibanda and Seru (2002), whose study of human resource strategies for Kenyan women smallholders looked for reasons behind the imbalance in participation in development by Kenyan women, despite their being an important and integral part of rural and national development. Findings attribute this mainly to the smaller number of women who are heads of households, and enumerate educational opportunities, cultural and discriminatory practices, and lack of capacity building as factors responsible for the imbalanced development. Ezumah and Domenico (1995) argued that demographic conditions, ecological circumstances, cultural values, and limited access to production resources and capital and time restrictions limit women's accepted roles in that region. This affects productivity, as the labour done by women in crop production is significantly high but less than that of men in Nigeria, due to the prevailing social constraints and lack of access to resources and capital and therefor recommended more efforts on the part of development stakeholders for ensuring increased level of women

participation. Women's role is not acknowledged in national statistics in Africa and women are not considered in the formulation of agricultural reform policies; as has been shown in other countries, they have limited access to land, capital and productive resources and no access to extension services, both of which directly influence their productivity (Qureshi, 1996).

FAO (2003) reported that women own less than 1% of productive resources and are discriminated against economically. Although women have come to take a central role in the production of wheat, rice, maize, and sugarcane, their economic earnings have failed to recognise this, and they remained deprived (Briones, 2002). In fact, most important decisions relevant to crop are still made by men, and women are rarely consulted. Chiong-Javier (2009) finds that discriminatory behaviour in the Philippines which prevents women from accessing adequate resources and opportunities, or from owning land, means that many women struggle to survive and to ensure their family's survival. Abdullah and Zeidenstein (1982) reveal cultural restrictions on women's participation in any economic activity regarding crop production: traditionally they are bound to remain at home and are not permitted to work in the field, but with the worsening of poverty they have had to seek paid fieldwork to support their families (Shirin, 1995).

As Erturk (1996) argues, women are deprived because of institutionalised discrimination against them; for instance, in some places they are not authorised to possess any resources (as in Amin, 2010). Othman and Martin (2000) confirm the underprivileged condition of women and reveal that insufficient provision of extension services, their excessive work burden and repressive cultural norms are the main constraints faced by women. In this regard, Cowan (1983) opined that women face social, cultural and economic hindrances, as the double work burden of fields and home lessens their well-being and they face malnutrition and exhaustion.

Women can play a far more effective role in the agricultural sector, if they were given the same facilities as men. This is because women contribute significantly in agriculture. Ajuonu (1999) emphasises that every possible measure must be taken to facilitate women farmers, in order to enhance their effective role in agricultural activities. Blomley (2000) supports this view. Kabeer (1994) adds that it is essential to acknowledge their participation in the national statistics so that women can claim

their rightful benefits. The General Directorate on the Status and Problems of Women in Turkey (1998) notes that women make up a far smaller proportion of the labour force than men, and this indicates a need to build the capacity of women to participate in the employment sector. In Tibet, it was noted that there is a need to adopt agricultural technology and provide adequate resources and technical guidelines for rural development that will lead to sustainable agriculture and food security, as insufficiency in this regard is affecting productivity in the agricultural sector (Chen Xiwen, cited in Xianghao *et al.*, 2004).

Hence, an important question arises on the imperatives and methods to include women in the rural development process. Satyavathi *et al.* (2010) recommend reforming existing gender patterns and technology use in farming and bringing about new strategies and programmes in agricultural development. In this regard, Brahmanand *et al.* (2000) highlighted the need for integration of technology, and better utilisation of resources in a gender perspective, so that sustainability may be maintained in food production.

Lipton and Longhurst (1989) while confirming the vital impact of agriculture on rural development, added that economic and agricultural reforms must be made in order to mainstream women in development. Women's participation in this process is imperative, given the ever-growing population and the need to provide their necessities. Women have to play a foremost part in the socio-economic, cultural and organisational areas at all levels. Ezumah and Domenico (1995) recommended that improved strategies for gender mainstreaming in the agricultural sector, as well as adequate resources and extension services must be provided to women in order to enhance their productivity and improve the economy of the country. Fabiyi *et al.* (2007) recommended that adequate extension services and credit facilities must be provided to women farmers in order to enhance their agricultural productivity. Furthermore, due recognition must be given to women in agricultural intervention to uplift their role in economic growth in the agriculture sector.

Rieu and Dahache (2008) also discussed the present and future scope of agriculture as a profession with a gendered perspective in the context of developing economies, and remarked that agriculture is gradually opening up as a profession for females. Women are beginning to overcome social, cultural and economic barriers and utilise

opportunities offered to them for successful farming careers. It is not only the interest of the women in agriculture which necessitates the importance of effective recognition of gender roles in agriculture. Axinn (1988), Regmi and Weber (1997), Acharya *et al.* (2005) and Acharya (2007), discussed the need for gender mainstreaming in agriculture. This is strongly supported by Ziso (2009) who argued that political, academic and societal thinking all perceive effective gender mainstreaming as a key concept in fighting poverty and ensuring rural development.

As long as women's productive contribution in regard to food security and the agricultural sector is over looked, agricultural development programmes in the world will remain unsuccessful. This was reported by the UN over a decade ago. The report also revealed that women are keen to accept skilled training related to farming and are open to new ideas and innovations pertinent to agriculture.

There are some studies that explored the relationship between gender mainstreaming and development while focusing on decision making. Jha (2004) reported in a study conducted on gender and decision making with particular context to Balinese agriculture and described decision-making as the most important factor influencing gender mainstreaming and development in a series of different agricultural activities. He took into account various participatory levels, different stages in agricultural production that are gender-specific before concluding his research.

Globally, the gender-based contribution in the agricultural sector varies according to the cultural, religious and economic conditions prevailing in a particular region. Gender acts as a socio-economic factor that can be utilised to define roles and responsibilities in agricultural activities and impose corresponding constraints, opportunities and incentives. However, there is still ambiguity in the status of gender parity in economic development. In order to clearly define the situation, gender-based issues in agriculture are starting to be recognised as important in research (Pakistan Agriculture Research Council 2004). Therefore in order to achieve economic growth and alleviate world poverty, it is imperative to design and focus development strategies based on recognition of the work done by women in the crop production sector and lessen the constraints they face so they can meaningfully contribute to development.

According to Wangui (2008) many interventions designed to induce positive change and development do not duly recognize the gendered labour patterns of the farming and agricultural production sectors, neglecting the distinct impact of the male and female components of the farming system. They suggested that rather than improving the situation, the current approach can further deteriorate the situation. He supported his argument by citing the results from a study conducted in Loitokitok Division, Kajiado District, Kenya. Wangui's amply explains the significant relationship between developmental interventions, gender and development which he supported with general observations that those programmes and policies which are designed, implemented and evaluated for rural development and were not based on gender sensitive problems and issues, were not successful in achieving their objectives and unsuccessful in achieving rural development. Paris (2004) claimed that although agriculture has a prominent place in developmental programmes and policies, food security threats at the individual household level are prevailing in rural areas. He attributed this phenomenon to the under-achievement of developmental programmes, and suggests that gender sensitive policies must be emphasised, designed and implemented which provide equal access to opportunities and resources.

For this reason, it can be argued that gender mainstreaming occupies a central place in agricultural research and development agenda. Gender mainstreaming in agriculture denotes the incorporation of both male and female sections of society in developmental strategies such that both are equally important and functional in development approach and agricultural production system. Opio (2003) referred to the process of gender mainstreaming as a process which involves planning at first hand and then subsequently measuring the impact of that planned activity on society by measuring the impact on both the male and female part of the community, with the objective to ensure equity for both genders at every stage of the activity. Tegbaru *et al.* (2010) conclude that gender mainstreaming reduces the imbalance of power between genders and ensures women's empowerment, which in turn reduces gender disparities obstructing the development process and yields robust economic growth, reducing poverty and improving living standards. Thus, gender mainstreaming is likely to lead to the empowerment of women. Landigam's (2011) research on the effectiveness of European Union-funded developmental projects in

Turkey supports this point of view. He concludes that projects which are designed to focus on women's empowerment contribute significantly to development. The work of Mama (2006), Radcliffe (2006) and Kotzé (2009) also establish the importance of women's empowerment in development, a direct outcome of gender mainstreaming.

Even though researchers did mention the importance of women in agriculture and rural development across various continents of the world, the question is, is it applicable in the particular context of Pakistan?

Coxhead and Jayasuria (1994) asserted that agricultural reforms must be made in Pakistan so that prosperity and economic growth can be made possible in rural as well as urban areas, as agriculture not only provides a livelihood for the rural population, but provides raw material for agro-industries in urban areas which in turn provide employment to the urban population. Agriculture accounts for a significant portion of Pakistan's national income as well as creating a good share in export revenue, and also the biggest sector providing employment to masses living both in rural and urban areas of Pakistan (GOP, 2007). In addition, it supplies agro-based industries, the raw material to manufacture ghee, sugar, textiles and leather (GOP, 2006). However, women's role in household as well as agricultural work, in Pakistan is yet to be acknowledged (GOP, 2007). Morrison *et al.* (2007) recommends that when women are given enough education, provided with skills training and resources, and given due status in decision and policy making, the goal of development may be attained.

Academics and various researchers in Pakistan also studied gender roles and women participation in rural development. According to Jamali (2009) despite their huge contribution, women's work is still to be recognised. This phenomenon is studied and verified by Javed *et al.* (2006) and Luqman *et al.* (2006), whose studies revealed equal women contribution at every stage of the agricultural production but they concluded that women's work is not yet acknowledged. They suggested the absence of gender related data showing their contribution across various activities as the principle reason behind this. Not only is recognition of women's work important, but this recognition must also have to be translated into good share of income for women to ensure a good quality life, not only for them but also for their household (Siddiqui *et al.*, 2009).

Jiggins (1986) recommends recognising women's work in development policies as prerequisite for sustainable development. While the literature clearly establishes that agriculture is the backbone for a rural economy, especially for developing countries like Pakistan, and that sustainable rural development is not possible without gender mainstreaming in agriculture, there is a serious lack of gender-sensitive data which can help in developing better development strategies in Pakistan. This fact necessitates the importance of undertaking a gender-sensitive study of agriculture in Pakistan.

### **3.5 Women's role in crop production**

Agriculture is a vast field. It includes various sub-sectors ranging from crop production to farm-related business; agriculture related input industry, horticulture, soil conservation and all other relevant fields. Sometimes, agriculture is also denoted by the term Green sector to show its hugeness. Even though women contribution in the agriculture sector is visibly high with numerous findings supporting this, it is important to find and study those areas of the agriculture sector where women's contribution is more significant and meaningful.

Cropping is an important sub-sector of agriculture and it consists of all activities pertinent to growing a crop - from production, processing and marketing. Crop production has progressively come to play a vital role in agriculture economies (IFAD, 2001). Mathews- Njoku (2004) has examined the importance of the crop sector in economic growth from a Nigerian perspective and found it very important in economic growth in rural areas of Nigeria.

The literature cited in this section will describe the importance of crop production in the agricultural sector, and women's contribution to it. Women role remains substantial in this sector all over the world. According to the study by Mosavi *et al.* (2011), women are connected to different farm activities, including farm work and pre- and post-harvest tasks; they contribute significantly to crop productivity, in specific. It was found during their study that, women's work is more concentrated in the crop production sector. IFAD (1999) evaluated women's roles in various crop production activities from hoeing, planting, cultivation, grading and pruning to reaping and picking, in Syria. Despite their input in physical activities in crop

production, their share in marketing crops was found minimal, as was their access to productive resources. Their participation in crop production within the agriculture domain, was also found highest by Van den Ban and Hawkins (1988).

Gawaya (2008) affirms that in sub-Saharan Africa, women perform 50% of crop production activities and account for about 70% of food provision. Koopman Henn (1997) also agrees with Gawaya, and reports that women are not only responsible for producing food crops, but also take part in the production of staple crops. In this regard, UNDP (1998) reports women's crucial involvement in food production in the African region, a situation affirmed by Matthews-Njoku and Adesope (2003). Women remain engaged in crop production activities such as sowing, weeding, harvesting and transporting crops in Kenya, as has been reported by Pala (1978). Ahmed and Hussain (2004) and Gawaya (2008) confirm this. Women work in the fields with men to produce cash crops, which is a triple burden.

Ezumah and Domenico (1995) also analysed the condition of rural women in Anambra state in Nigeria and find them essential for land preparation, cultivation and harvesting yams. Fabiyi *et al.* (2007) quantify the work done by women in the crop sector in Gombe State, Nigeria, finding that women's contribution is substantial: they are dominant in land preparation (58%), sowing (72%), weeding (80%), harvesting (93%), transporting produce (82%), crop handling (93%) and selling (88%).

FAO (1995b), Pal (2001) and Paul and Saadullah (1991) all recognise women's participation in crop production. FAO (1995b) reported that, in Cyprus, both women and men are actively involved in production of potatoes, citrus, vines, greenhouse vegetables and pulses, and women are responsible for planting, pruning, picking and handling grapes. Women perform activities such as seeding, thinning, hoeing, harvesting, and threshing and handling, while in Syria, Turkey, Iraq, Tunisia, Jordan, Mauritania, Lebanon, Egypt and Sudan, they carry out all these activities as well as land preparation, pest control and transportation (FAO, 1995b).

It is reported that in developing countries the majority of female workforce is engaged in agriculture and crop production. FAO (2003) reported the importance of the crop sector for the economies of developing countries which is supported by



various research studies in Cyprus, Oman and Sudan, where women's involvement has improved because the men have immigrated to urban areas in search of work.

Gendered distribution of the labour force is a prevailing factor in the crop production sector all over the world, including Asia, where women work during pre- and post-harvest season in those activities which are laborious and time-consuming, while they are supervised by men who predominantly do physical labour. A gender division in employment is evident in the division of agricultural labour, with men mainly responsible for mechanised land preparation, irrigation, crop-dusting, and harvesting using machinery, while women are involved in the non-mechanical aspects such as sowing and applying fertiliser, hoeing, harvesting, picking vegetables and fruits manually, and transporting them (FAO 1995b). The involvement of women in transportation and marketing is not as evident in the Near East as in other regions of the world (FAO 1995b). In developing countries women's participation often is necessary for household survival and to maintain a sustainable agriculture, where they are sometimes paid but often work as part of the family workforce that is usually unpaid. In crop production, women and men contribute equally in preparing land, seeding and cultivation, but women carry out most of the seed cleaning, sowing, hoeing, weeding, harvesting, threshing, handling and storage activities (FAO, 1995b). In Africa, women are expected to grow food crops to provide food to their families as well as to lessen men's burden in staple crop production (Grellier, 1995). Grellier's study examined women's proficiency in various crop production activities, their access to productive resources and their awareness of new technologies and found the highest contribution in production activities. Other studies showed that over 60-80% of the female labour force is engaged in crop production-related activities in Nigeria (Kisekka, 1981; Mahmood, 2001). In Zambia, women participate alone or in collaboration with men to produce maize and hybrid maize crops at the extent of 60% and 25%, respectively with regard to participation (Kumar, 1994); but in Malawi women grow local maize varieties for household food provision, while the men grow hybrid maize varieties for income generation (Gladwin 1992); this affirms the assertion of the World Bank (1994) about the gendered division of the labour force in the production of food and cash crops.

FAO (2003) highlighted women's role in seed cleaning to harvesting of crops and also food processing to storage activities. Olawoye (1985) discusses various crop production tasks done by women in Africa. Land clearing, sowing, fertiliser application, harvesting, processing and food security are carried out by women. Mollel and Mtenga (2000) confirm these findings, and also find that marketing is exclusively done by men; this keeps women from receiving any economic benefits.

Ploughing was exclusively done by men in almost every country (FAO, 1995b; IFAD, 1998; Pradhan *et al.*, 1998; Prakash, 2003; Amin, 2010; Satyavathi *et al.*, 2010) except China (Kelkar & Yunxian, 1997) and Ethiopia (Ogato *et al.*, 2009). Gendered distribution of labour is evident in the sub-Saharan African region in crop production, although it varies depending on ecological conditions and social and cultural morés (Gawaya, 2008). These findings are affirmed by the research of Abera *et al.* (2006); Mehra and Rojas (2008) and Mollel and Mtenga (2000).

Some studies examined the labour done by women in reference to time consumed in that activity. JICA (1999) reports that in Ethiopia, women have longer working hours than men, as they have to perform manual labour along with reproductive work. In Syria, two-third of women workers spends six hours, and one third spend seven to ten hours, performing work outside the home (IFAD, 1999). Similarly about 11 hours are spent daily by women in household chores and agricultural activities in Bangladesh (Zaman, 1995). Satyavathi *et al.* (2010) affirm the substantial time consumed by women in India; women's time spent in agricultural activities and household chores has been found to be about 13 hours a day (Kaur & Sharma, 1991). According to a report of FAO (1995b), women used to work in the fields for crop production and at home for household work up to 15, 12, 14, 11 and 12-16 hours a day in Jordan, Morocco, Lebanon, Cyprus and Yemen, respectively. Therefore, it can be inferred that women are burdened by their load of household as well as agriculture work.

In South Asia, women's participation in the crop production sector is imperative for development in rural areas. In Sri Lanka, women are actively involved in tea and rubber farming. Women constitute 33% of the growers and 47% of the farm labourers in India (Rao, 2009) where they are engaged in the production of cereals, vegetables, fruit, nuts and spice crops (Singh & Senguputa, 2009). The World Bank

(1991) also affirms women's contribution in crop-related activities and to the economic growth of their families. Rahman (2000) confirms these facts for Bangladesh, with the exception that women there only carry out post-harvest activities and have no voice in economic growth at the state level. Women's active participation in rice cultivation in India is substantial, but they are paid little for their activities of weeding, hoeing and harvesting. Almost the same situation is found in Bhutan and Bangladesh (FAO, 2006). Jordans and Zwartveen (1997) confirm that there is female participation in rice production in Bangladesh. Work in the farm, however, can be related to socio-economic status. For instance, Jahan (1990) found that up to 70% of poorer women work in the agricultural sector, whereas large farm holder families' women do not work at all.

In Pakistan, women are actively engaged in crop production and play a key role in the agricultural sector (Amin *et al.*, 2009; Javed *et al.*, 2006; Nazli & Hamid, 2007). The World Bank (1989) report on rural women's participation in the agriculture sector in Pakistan notes that women are predominantly associated with cropping activities, and participate widely in harvesting tasks like hoeing, shifting rice in the field, cutting fodder, picking cotton, working in sugarcane plantations, threshing, grading, storing and drying and fruits, and vegetable production. Nearly 35% of women are involved in pre-harvest farming activities like preparing cotton seed by measuring weight and winnowing, and a variety of cotton production operations such as hoeing, grading, manure and fertiliser application, and cleaning and removing sticks from cotton. Storing farm produce at the household level was exclusively done by women (Fresco, 1998; Riaz, 1994).

Cotton is a main cash crop accounting for approximately half the national export revenue, and is extremely dependent on the labour provided by women. The majority of female agricultural workers are employed in cotton production and its collection in Sindh province, Pakistan, at the extent of 26%, 22%, 30%, 16%, 86% and 8% of women working in fields during these activities in sowing, weeding, hoeing, cotton grading, harvesting and land cleaning, respectively. This manifest that women's work is highest concentrated in harvesting and hoeing (Naqvi *et al.*, 2002). Cotton production is complex, a lengthy process demanding considerable attention and labour during the whole cropping period, and requiring a great deal of expertise

(Amin *et al.*, 2009). Women in Pakistan provide proficient labour even in the absence of training and resources, usually as unpaid family workers; and if paid, they are discriminated against in wages (Jayaweera *et al.*, 2004).

Rural women are engaged in several tasks relevant to the cultivated crop production in Pakistan (Sarwar *et al.*, 1993 and Nazli and Hamid, 2007). They spend much of their time in agricultural activities in Pakistan (Reddi, 2003; Nazar, 2004; GOP, 2007 and Nosheen *et al.*, 2008). For instance, Hassan (2008) conducted a study in Muzaffargarh, Pakistan, to analyse women's participation level in the agricultural sector. Efficient gendered participation was observed in all aspects of production work, excluding mechanical land preparation, use of manure and fertiliser and the threshing of wheat and handling and storing of fruit, which were exclusively male tasks; cotton picking was done solely by women.

Women are predominantly engaged in cotton production in Punjab, Pakistan (Qadri & Jehan, 1982). They are involved in pre-harvest activities like seed preparation at the extent of 35% of the sampled respondents along with weeding and thinning, manure application, hoeing, cotton cleaning and stick removing (Asghar, 1994); cotton picking is exclusively done by women in Pakistan (Qadri & Jehan, 1982).

Saghir *et al.* (2006) discusses gender mainstreaming in the context of crop production and food security in Attock district Pakistan. Here, women contribute in wheat production and post-harvest activities like wheat cleaning for milling and food storage, but transportation is done by men. In rural areas like Faisalabad in Pakistan, women are involved in economic growth by performing agricultural activities along with their conventional reproductive roles and household chores (Amin *et al.*, 2009). Women's participation in seed cleaning, land preparation, manure application, weeding and harvesting, was less than men's, as they were burdened with domestic tasks.

### **3.6 Women's roles in vegetable production**

Vegetable production is another important sector of agriculture, thus women's role in vegetable production needs to be examined. The World Bank (1989) notes women's considerable role in producing and storing fruit and vegetables, as does FAO

(1995b). Vegetable production is one of the most promising sub-sectors of agricultural production. According to Dahal *et al.* (2009) it is replacing cereal cultivation in the Himalayan region of India because of its higher profitability, a fact endorsed by Lynch and Ferris (2010), who note that economic considerations are the main reasons behind the farmers' choice of vegetable production. In the fertile and agriculturally resource-rich southern and western provinces of Turkey, vegetable production dominates agricultural production because it provides better returns due to the high demand for fruits and vegetables in local and European markets (Keyder & Yenil, 2011). In China, women are trained to improve their skills and enhance vegetable production (FAO, 1997b). In Cyprus and Somalia, men and women contribute equally to the production of potatoes, fruits and greenhouse vegetables (FAO, 1995b). Women provide 50% of the labour required for vegetable and potato cultivation in Egypt. In Lebanon and Yemen women are also engaged in fruit and greenhouse vegetable production (FAO, 1995b).

Farmers in Pakistan are also shifting towards vegetable production. Women are traditionally the producer of vegetables, short-term crops; and they continue overwhelmingly to contribute to vegetable production. In most countries, these quick-maturing crops are valued for their rapid economic return (IFAD, 2001) making vegetable cultivation a vital economic activity (World Bank, 1989). Women also traditionally grow vegetables in their kitchen garden so that they have a food supply in times of shortage. Despite the growing popularity of these crops, their main cultivators, women, face many constraints including landlessness, inadequate resources and lack of technology and mechanisation.

### **3.7 Women's participation in livestock production**

Livestock husbandry is another prominent sub-sector of agriculture. It accounts for a good deal of growth in national economies, not only providing livelihoods for people in rural areas who have little or no land, but providing employment to the labour force in certain regions as well as for nomadic people. Moreover, livestock have a high nutritional value, and thus alleviating malnutrition which sometimes prevails in rural areas (Miller, 2001).

Livestock is an essential sub-sector of agriculture and women are responsible for livestock and poultry rearing, mainly to generate income for their family; manure, fuel and food for the household are additional benefits. As shown in FAO (1995b); Akmal and Sajida (2004); Javed *et al.* (2006); Amin *et al.* (2009) and Nosheen *et al.*, (2011), women are predominantly involved in this sector. Women are expected to take care of the livestock, feed them, cut fodder, clean sheds and process animal products.

FAO (1995b) acknowledges women's active participation in the livestock sector revealing that in the near east regions of Cyprus, Yemen, Syria, Morocco and Egypt, women have major responsibilities in the livestock sector, which includes cattle, sheep, goat and camel production. They perform more than 80% of the labour necessary for livestock production in Morocco and Yemen. Their contribution in selling livestock is minor, but they are responsible for all other activities such as fodder cutting, cleaning of sheds, milking, feeding and watering animals, and making products from the milk such as ghee, butter and cheese. In Iran, Turkey and Mauritania, women are involved in poultry and livestock raising and egg production, in addition to maintaining and feeding the domestic animals that are usually used for ploughing and other domestic purposes and for meat, dairy food and wool. In Turkey, Iraq and Sudan, men and women share the responsibility for livestock production. Women are involved in herding sheep, goats and cows in Yemen (FAO, 1995b).

In Africa, women in Nigeria predominantly rear goats (Okali & Sumberg, 1985), which not only provide food and income to the family but are also easy to maintain (Bosman *et al.*, 1997).

In Asia, women predominately rear livestock and perform shed cleaning, livestock production and protection, feeding and watering animals and processing dairy products (RNCOS, 2006; Tipilda & Kristjanson, 2008). FAO/UNDP (2002) reports women make a significant contribution in maintaining livestock in Vietnam. FAO (1997b) reported women's vital contribution in livestock production in China. In the poorer developing countries, women's role in animal husbandry is promising: for instance, women in Afghanistan face mobility constraints, but even so are engaged in livestock and poultry production (IFAD, 1997). Although lack of education is a

restricting factor, they have specialised veterinary skills to keep animals healthy and ensure income and nutrition for their families (FAO, 2011).

In Sri Lanka, females are engaged in rearing cows and milking them, improving both family income and diet (FAO, 1995b). Similarly, Paudel *et al.* (2009) found women extensive work in livestock in Nepal. In India, women also play a vital role in livestock management, but, as is becoming the norm, their contribution is not recognised as they are not considered in incentives and strategies of development in this sector (Niamir-Fuller, 1994).

In the subcontinent region, owning livestock is a status symbol. The purpose of raising livestock varies, according to social, cultural and geographical conditions, such as maintaining a traditional life style, generating income from sales of livestock and dairy products, utilising animals in agricultural activities, collecting fuel and manure, etc. (Heffernan *et al.*, 2001). Livestock rearing usually is carried out not only for domestic purposes but also to create income. Rearing livestock is beneficial because it not only generates income for household but provide fuel and organic manure. Animals are used as plough and nutritional food for family. Women clean sheds, feed animals and take care of livestock; their role is recognised, and they are consulted in decisions about selling and buying livestock as was found in Bangladesh by Abdullah & Zeidenstein (1982) and Paul & Saadullah (1991). However, a study found that in India, while women perform approximately 93% of the total work in dairy production, and their contribution in several responsibilities is important, they still have little control over decisions about livestock and its products (World Bank, 1991). In China, women collect manure from animals sheds for the household fuel consumption (FAO, 1997b). Rangnekar (1991) observed women's substantial role in livestock sector in rural India and finds it is their responsibility to take care of small farm animals, including calves. They spend most time in management, feeding, and watering animals. Sharma (1980) found women's imperative role in livestock sector is related to its production and decision-making in this regard in India. In India, 90% work of livestock husbandry is carried out by women (Rao, 2009).

In Pakistan, livestock is a prominent sector of agriculture and a vital source of livelihood for poorer people who do not possess land for farming in rural areas, and

thus is a key to economic growth at certain national levels. It contributed 11.6% of the GDP during 2010–12 (Pakistan Economic Survey, 2011–12). Livestock is owned by small farmers or poor people to supply milk, food and fuel. Gendered roles prevail in the livestock sector as elsewhere, with women actively participating in livestock maintenance, milking, processing dairy products, fodder cutting, watering and feeding livestock, and making dung-cakes for fuel (ESCAP, 1996; FAO, 2005; PARC, 2004; Sadaf, 2005).

Women's contribution in livestock sector is found to be similar in Pakistan like rest of the world. Nosheen *et al.* (2011) carried out a study to assess women's role in livestock management and production in Potohar region in Pakistan and reported a significantly greater participation rate (60.1%) of women in the livestock sector. Women are mostly doing activities of livestock husbandry, protecting livestock, managing livestock and poultry raising to the proportion of 38.5, 28.0, 66.0 and 26.5 per cent respectively, on the other hand, men's involvement in these activities were quite low as they were contributing at the proportion of 32.5, 35, 8.5 and 3.5 per cent in these respective activities (Nosheen *et al.*, 2011). Javed *et al.* (2006) also conducted a study in Faisalabad district to examine gendered participation in the livestock sector. His study found that women are involved in shed cleaning, livestock rearing, caring, milk processing, cutting of fodder, manure collection, dung cake making, watering and feeding livestock, but have only a nominal role in marketing, which makes them economically underprivileged; they have inadequate resources for their work. These findings align with those of PARC (2004) and Yaqoob (2004). In rural areas of Pakistan, stall feeding, watering, milking, milk processing, collecting manure, making dung cakes, muck out and protecting sick animals are the activities mostly carried out by women (Farooq *et al.*, 2007; Ranjha *et al.* 2009).

Arshad *et al.* (2013) conducted a study in Tehsil Jhang, Pakistan, assessing women's role in livestock production. Their results revealed that women's contribution in various activities pertaining to livestock ranges from very low to the maximum, according to the nature of activity, as low as only 0.8 per cent women were found active in grazing the animals, followed by cleaning animals (26.7%) and milking (35.8%). On the other hand, their participation was found high in processing milk



(100.0%), gathering of manure (87.5%) and making dung cakes (90%) and caring sick animals (82.5%). Average participation were found in fodder cutting, feeding, watering, muck out and marketing of livestock activities.

Iqbal *et al.* (2000) on the other hand, found that animal grazing and watering are mainly accomplished by men; while caring, feeding and watering calves and milk processing are done exclusively by the women of the family as was found by in Cholistan desert in Pakistan. Moreover, their study reveals that people there prefer cattle, followed by sheep, goats and camels, as producing milk and selling its products is essential for income generation in the area. Women contribute more to livestock than to crop production, and play a major role in taking decisions about rearing, selling and buying livestock and poultry, and in animal vaccination (PARC, 2004).

As shown above, women's contribution in livestock production is valuable, as they herd, muck out, feed and water their animals, take care of their health, maintain them, milk them, and make dairy products; despite their contribution, their role is still unrecognised in the development policies (Flintan, 2010). Women have a significant role in food provision by rearing and handling livestock (Dolberg, 2001). Yet, they face numerous hurdles. Limitations to women's contribution to dairy farming are the time spent in traditional household work, and low levels of skilled training and opportunities in dairy farming. Addressing these challenges will require some effort by governments to provide appropriate training services after the evaluation of shortcomings facing women and the development of solutions (FAO, 1995b).

In order to facilitate women's effective production of livestock it has been recommended that improved strategies be made to provide loans and educate them about optimal techniques of rearing livestock so that productivity and economy can be increased (Amin, 2010; Nosheen *et al.*, 2010 and Arshad *et al.*, 2013). Women are supposed to be more efficient than men in animal husbandry, which improves their family health and education of their children, although the women themselves often remain affected by malnutrition. Miller (2001) suggests that in order to facilitate and empower women, improved policies regarding livestock sector should be made so that women can receive greater economic benefits from their work.

Given that women's role is pivotal in agriculture (including crop and livestock production), it is important to effectively mainstream women in improved livestock production strategies. Mainstreaming women's concerns will give them greater capacity to change farming communities. They will also be able to increase their contribution to production. Policies must be made to enhance their role in this sector, which will enhance all rural development. While highlighting women's contribution to various sectors in agriculture is clearly important, women's full potential can only be realised if gender mainstreaming is realised.

### **3.7 Gender mainstreaming**

The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) constituted a commission in 1946 for the development of women. The purpose was to examine the position of women in society at all levels and to assess the rights held by women. In order to highlight the need of women in the process of development and to acknowledge their rightful contribution, it was proposed by the commission in 1975 to celebrate International Women's Year. The purpose of celebrating this year was to encourage discussion of gender equality in society, and to encourage a review of the present conditions of culture, standards, norms and legislation, and make the necessary reforms to involve women so that they could contribute effectively in international circumstances and equally privileged in all fields of life (Boutros-Ghali, 1996). Women can participate in growth if they are given due rights and opportunities by policy makers and organisational managements; but this can only be done if the conventional gender inequality present in society is reviewed and policies for women's participation are enacted.

Much effort was made in this regard in women's convention in Mexico in 1975; and after the Development Beijing Conference (1995) on Women, various agencies for policy development determined to adopt 'gender mainstreaming' as a plan of action, to achieve the goal of gender equality by integrating gender in all aspects of life.

The essentials of gender mainstreaming are incorporating men as well as women in the development agenda, and ideally to have gender equality. It is a strategy that strives to define rights and responsibilities for both men and women, making them equal participants in and beneficiaries of progress. An agreed legislation (CEDAW,

1979 was formulated by the United Nations, and it was affirmed that member countries would work to abolish gender discrimination against women (UN, 1997). This milestone became a basis for strategies designed to reduce and eliminate gender inequality worldwide. Stakeholders, state policy makers and NGOs all over the world adopted gender mainstreaming as a strategy to identify and address gender inequalities.

### **3.7.1 Gender mainstreaming importance**

The discourse of gender equality and gender mainstreaming gained enormous importance with regard to human rights and development scenarios, from social, cultural to economic. In the current era, no society can be developed without achieving gender equality, providing equal gender participation in social, political, legal and cultural areas of life. The World Bank (1994) has affirmed the concept of gender equality and equal participation, not only to achieve justice in society but also to eradicate poverty. Women have to play an active role in the betterment of the world to ensure growth and prosperity in various regions of the world.

Experience has shown the substantial impact of women's participation in economic growth, social justice and cultural liberty worldwide, and it is clear that women's contribution is essential for sustainable growth in these areas (Karl, 1995; Oxaal & Baden, 1997). In order to involve women effectively in the process of development, it is necessary first to transform the conventional rules of society, cultural norms, and the mindsets of people in general, and the thinking of policy makers and stakeholders, in particular.

Women can be made equal participants in the development process through gender mainstreaming strategies which are universally approved mechanisms to promote gender equity and equality. The strategies themselves are not products but are the ways to achieve this goal. Rangnekar (1998) defines mainstreaming as a technique to reorient institutions by adopting certain ways and arrangements in order to obtain required outcomes and fulfil the expectations of a particular society and social perspective. His definition is supported by Thege (2002), who adds that the essentials of mainstreaming are to specify and originate plans and actions that depict

an unambiguous standard for organisations, so that international and circumstantial results can be attained, and standardised patterns may be outlined.

Gender mainstreaming presents gender-based disparities, as it not only deals with the integration of women by enhancing their roles and status, but also concentrates on men's exclusive responsibilities to create harmony between men and women at each sphere and stage of life, and consequently to stabilise the condition of gender equality in a particular society. A report by the United Nations (1997) concludes that mainstreaming is a process of maintaining gender equality as it assesses the socio-economic and cultural constraints faced by both men and women in any development strategy, and verifies the steps that may be taken to overcome these hindrances so that men and women can be equally privileged and contribute to social reforms, political awareness and economic growth at state level by becoming involved in development projects. As defined by ECOSOC (1997/2, p. 27), mainstreaming is:

*The process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality (ECOSOC, 1997/2, p. 27).*

As such, mainstreaming is argued to be a progressive development strategy of gender equality adopted by state actors and policy makers at all stages and at all levels all over the world. According to the Council of Europe (1998) gender mainstreaming is 'the (re)organization, improvement, development and evaluation of policy processes, so that a gender equality perspective is incorporated in all policies, at all levels and at all stages, by the actors normally involved in policy-making' (p. 15).

Gender mainstreaming provides a comprehensive plan of action that reviews and summarises the drawbacks and deficiencies in the capacity of feminist theory to

incorporate gender equality in the current era, and has evolved new dimensions to practice them in better manner (Beveridge *et al.*, 2000; Hafner-Burton & Pollack 2000; Verloo 2005).

According to Rees (2002), mainstreaming is supposed to be capable of integrating gender equality in all systems and institutional patterns; thus, gender issues must be emphasised in all programmes and policies concerning current developmental processes in order to transform organisational and cultural structures in societies. Rees argues that the transformation of prevailing institutions and standards of society is requisite if gender mainstreaming is to be capable of effectively implementing social justice. The Council of Europe concluded that state actors and policy makers have the responsibility to implement gender mainstreaming strategies. Only, in this way can accomplishment of the millennium development goal of gender parity be possible. In order to accomplish this objective, a comprehensive strategy of execution, and specific 'tools' such as gender-based statistics should be employed to design requisite policy. Gender budgeting should be introduced to implement policies effectively, and evaluation of already designed and implemented gender strategies should be carried out to organise and prioritise the mainstreaming concept (Barton & Nazombe, 2000; Rees, 2004; Riley, 2004).

### **3.7.2 Gender mainstreaming approaches**

As alluded to above, gender mainstreaming is a transformative plan of action adopted worldwide to achieve gender parity. It is a transformative strategy in that it can change patterns of work in society. It not only encourages women to be the part of the decision-making process, but helps them to become incorporated in developmental and political objectives (Rai, 2003 & 2004).

Mainstreaming necessitates a gender perspective to be included in all activities; its strategy aims to attain gender parity in all prospects. It transforms the mechanisms of policy making, legislation, planning, and implementation, and of the monitoring of these policies and projects. However, this process is complicated and may be difficult to implement as it challenges customary political process (Schalkwyk *et al.*, 1996). It is unconventional and may face opposition from political and organisational structures.

The Council of Europe (1998) emphasises gender equality of opportunity to participate in every aspect of life. Equal gender participation is necessary in political, cultural, economic and social development to assure economic independence of both men and women and in turn to augment their living standards. In accordance with the particular expectations of gender mainstreaming, gender equality can be classified into two categories: 'practical' and 'strategic' gender needs (Moser, 1993; Molyneux, 1998). The former is concerned with the conventional roles and responsibilities of women such as their reproductive role, and with their education and social welfare. It is typically associated with domestic, social and cultural activities. The latter deals with women's dependency on men - either economic, cultural or social. Practical needs are easy to fulfil as they require less change in policies; however, strategic needs are abstract and can be difficult to achieve as they relate to issues of power and control. According to Moser (1993), capacity building measures are necessary to help rural women to help bridge the gap of existing disparities and strategic needs should be addressed for this purpose in a rightful manner.

In order to satisfy these needs and to make gender mainstreaming meaningful in each respect, certain strategies are required. Jahan (1995) proposes two types of mainstreaming strategies - an 'integrationist approach', and an 'agenda-setting approach'. Lombardo (2003) and Squires (2005) supported the essence of the agenda setting strategy as being able to transform and reorganise the prevailing situation of gender inequality. According to that strategy, policy patterns should be reoriented, and both the authority to make decisions and the decision-making process should be altered, the millennium development goal of gender equality should be reaffirmed and highlighted, and relevant policies should be reviewed. The integrationist approach to gender mainstreaming does not need to transform existing development patterns; instead it introduces gender-based issues. As it does not challenge the prevailing conventional social structure of development, this approach is probably more likely to be adopted by state actors; however, its impact or significance may be less because it has less capability to transform the mindsets of policy makers (Jahan, 1995).

Beveridge and Nott (2002) argue that only if mainstreaming is capable of transforming the patterns and established conditions of gender in society will it be able to fulfil its goals. Gender mainstreaming can be the way to reduce or eliminate the gender disparity present in all spheres of life. The need is to find the best strategies and to execute them effectively. However, as pointed by Elgström (2000) and Perrons (2003), there is opposition to gender mainstreaming implementation as it requires a transformation of prevailing economic, cultural and social perspectives.

There are certain principles attached to implementing development policies in order to obtain the expected benefits of mainstreaming gender. These principles were established by feminists in the 1970s (Meyer & Prügl, 1999), and require involving gender equality in development processes, as emphasised by the WID (Women in Development) approach (Kabeer, 2003; Moser, 1993; Rathgeber, 1990). The basic principles of mainstreaming are to identify the gender inequalities present in a particular situation, implement gender mainstreaming in order to involve women in decision-making and development processes, utilise every possible resource in this regard, maintain a political determination and monitor the whole process (UN, 1997). Woodward (2003) emphasises the importance of identifying gender-based disparities in certain cultural and political situations, while Verloo (2001) argues that political consensus must exist if gender mainstreaming in its true sense is to be implemented. If appropriate opportunities and resources are available for the execution of mainstreaming strategies, then the chances of achieving encouraging results increase. Rai (2003) and Grosser and Moon (2005) also accentuate the need for accountability of mainstreaming strategies.

Progress in gender mainstreaming and attitudes towards gender equality have the potential to become the central factor of every policy resolution, family policy and even work policy. Because of strong traditional and cultural issues, the evolution of interpersonal characteristics of individuals' lives appears to be difficult (Crespi, 2007). Against this, the scope of human rights and social justice is linked with economic and social confirmation that political and social investment in women is an accurate and sensible mechanism.

It is worthy to note that gender mainstreaming is an ongoing practice of transforming policy-making processes and the working conditions of organisations, as well as

implementing changes to structural, cultural and social standards and thus requires a great deal of effort and time on the part of state actors and institutions (Rubery *et al.*, 2000). The process is an incorporating strategy that integrates political and technical aspects, in order to make it successful (Beveridge *et al.*, 2000; Rees, 2004; Schalkwyk *et al.*, 1996). The political perspective deals with policy implementation, integrating women in the processes of decision-making and development so that gender equality can be achieved and hindrances in its path overcome; whereas the technical perspective focuses on the tools that can be used to implement this strategy, such as using gender-based statistics and designing mechanisms of progress, execution and monitoring. UNDP (2006) recommends that active participation in the implementation of mainstreaming strategy on the part of political leaders, a strong framework, utilisation of gender expertise and adequate resources, accountability of processes, equality in opportunity and enhanced collaboration between various organisations will reinforce mainstreaming.

As well, progress in the implementation of mainstreaming strategies and their consequences can be attained with the help of administrative will, social and cultural reforms, and by utilising every resource for this purpose; corporate social responsibility may also be substantially helpful (Grosser & Moon, 2005). Walby (2002) and Rees (2004) also make a link between corporate social responsibility and gender mainstreaming. Grosser and Moon (2005) discuss the economic benefits of implementing gender mainstreaming strategies and conclude that they imply an augmentation of both financial and social perspectives of society. However, corporate social responsibility needs to be improved as existing organisational structures and workplace cultures are hindrances to mainstreaming strategies (Goetz, 1997; Longwe, 1997).

Dex *et al.* (2001) and Vinnicombe (2004) affirm the vital contribution of mainstreaming gender from an economic perspective. The application of mainstreaming strategies to the processes of economic development can make a difference by changing the current of socio-economic conditions, and ultimately is likely to affect existing levels of decision-making authority and power.

The International Labour Organisation has also affirmed gender equality and mainstreaming, and has issued a clear policy statement:



*Mainstreaming is not about adding a ‘woman’s component’ or even a ‘gender equality component’ into an existing activity. It goes beyond increasing women’s participation; it means bringing the experience, knowledge, and interests of women and men to bear on the development agenda. It may entail identifying the need for changes in that agenda. It may require changes in goals, strategies, and actions so that both women and men can influence, participate in, and benefit from the development processes. The goal of mainstreaming gender equality is thus the transformation of unequal social and institutional structures into equal and just structures for both men and women (ILO, 1999, p. 7).*

Corner (1999) reiterates the need for gender mainstreaming to involve women in decision-making processes, to acquaint them with their potential and to make them effective participants in the development process so that they can be equally privileged under gender equality. There are three basic acknowledged models used to impose gender equality (Booth & Bennett, 2002): the first is ‘tinkering’ with gender disparity; the second is ‘tailoring’ present circumstances incorporating the needs of women; the third is ‘transforming’ norms and standards, reforming them in order to give every person the authority to make their own decisions (Rees, 1998). As pointed by Booth & Bennett (2002) and Rees (1998), ‘tinkering’ and ‘tailoring’ do little more than address women’s concerns within existing structures and maintain the status quo, only the third strategy, ‘transforming’, will truly enable gender mainstreaming and achieve the goal of gender justice. Only this model transforms prevailing social norms and cultural values in organisations, a prerequisite for gender parity.

### **3.7.3 Constraints in gender mainstreaming**

Gender mainstreaming is a complicated process and may face many hindrances as it challenges contemporary cultural norms, social standards and power issues (Hassan 2008; Nosheen *et al.*, 2010). Constraints to the execution of gender mainstreaming in the United Kingdom, for example, have been identified to include lack of management and political will, insufficient coordination among organisations and policy makers, and inadequate resource utilisation in reforming social norms (Woodward, 2008; Daly, 2005; Rees, 2002; Verloo, 2001). It has thus been

suggested that several necessary steps must be taken to gain the anticipated outcomes of gender mainstreaming, and this will require serious effort on the part of state actors, and the effective mobilisation of organisations and legislation on gendered issues (ILO, 1999). A concerted effort needs to be made to clarify misconceptions attached to gender mainstreaming strategies so that they are accepted by society. In Pakistan, cultural norms and standards, absence of mobilisation, inadequate financial and human resources, lack of education and skilled training and gender discrimination, all badly affected the implementation of mainstreaming practices (World Bank, 1994; Barton & Nazombe, 2000; Hassan, 2008; Nosheen *et al.*, 2010). Worldwide, however, more effort in gender mainstreaming is required for the betterment of women.

This literature review indicates that gender mainstreaming is an innovative concept that considers the flaws of feminist approaches adopted earlier and reorients them in accordance with the present needs of society, to introduce the concept of gender parity in international policies and development processes. In general, gender mainstreaming is a way to eliminate some of the political, social and cultural disparities present in society. It enables gendered participation at all stages and in all spheres of life by improving the proficiency of institutional and structural reforms. Because of its transforming and challenging nature, it will require a great deal of effort if it is to be adequately implemented and if its goals are to be achieved. Gender mainstreaming assures gender equality and equal participation in all fields of life; it makes men and women partners in development, and empowers them all for their own betterment.

### **3.8 Conclusion**

FAO (1995a) defined the goal of women's development and stated its significance in the Conference for Plan of Action, according to which due recognition should be given to women's substantial participation to agriculture, food security and household management, which will help to accomplish sustainable development in the agricultural sector and rural areas. Women's role in crop production is essential for sustainable agriculture, food provision to the world and, more importantly, development of the world. The serious lack of gender-sensitive data and limited research into rural agricultural production, and particularly vegetable production,

hampers planners in their conception and development of projects and programmes which can effectively and efficiently help develop rural areas in a sustainable and equitable manner. This deficiency points to the need for gender-sensitive studies of rural production systems, including vegetable production systems.

The existing literature provides information on gender roles, and the contribution and importance of women to rural household life, barriers faced by women preventing them from reaching their potential and fully contributing to society. These issues combined, indicate the need for gender mainstreaming. While it is increasingly accepted that gender mainstreaming is critical, operationalising this concept, however, remains a challenge; albeit, important, especially for women, as it could lead to their empowerment to the benefit of their households and the society at large.

# Chapter 4

## EMPOWERMENT

### 4.1 Introduction

This chapter is devoted to an extensive overview of empowerment and divided into nine sections in order to explore empowerment and its relevant concepts clearly. Section 4.1 is the introductory portion. Section 4.2 contains an elaboration of the term empowerment and its salient features while Section 4.3 focuses on the concept of women's empowerment. Section 4.4 then enlists the concepts and approaches of empowerment to develop an understanding of power: the root term of empowerment. This is then followed by Section 4.5 which enlists the development discourse and applies it to the concept of empowerment. Meanwhile, Section 4.6 describes constraints associated with women's empowerment, while Section 4.7 contains an overview of gender development initiatives to promote empowerment and their impacts. Section 4.8 deals with the measurement and assessment of women's empowerment and offers a brief discussion of the framework for measuring empowerment and the limitations encountered in this context. Finally, Section 4.9 explains the significance and background of the International Food Policy Research Institute (IFPRI) empowerment model, the dimensions of empowerment, and specifically women's empowerment in agriculture.

### 4.2 The concept of empowerment

The Oxford Dictionary defines the term 'empower' as 'to delegate somebody the power or authority to do something or make (someone) stronger and more confident, especially in controlling their life and claiming their rights'. Empowerment is thus the concept of bestowing power on people so they may transform their lives in a manner they want.

Empowerment is extensively used in development discourse and has various meanings, including power. It is associated both with corporations and with the actions of individual and collective capacities, capabilities, opportunities, self-sufficiency and freedom in all regards. Its multifaceted nature makes it difficult to

work with the concept (Pettit, 2012). As argued by Batliwala (1994), empowerment is the broadest concept in development discourse and this requires considerable effort to cover the whole concept as it can be interpreted in diverse ways by different people. Sparr (1994, p. 185) cautions that an ‘emerging problem is the co-optation of the word empowerment. Empowering people has become the buzzword of the 1990s’. She asserts that empowerment is a highly dubious term, having different meanings under different rational and political agendas, and needs to be reviewed critically. Leon (1997, in Sardenberg, 2008) too argues that various development agencies and organisation regard empowerment differently from each other, leading to contradictions in their practices. For instance, one organisation may emphasise the liberating origin of empowerment while another uses the term as an alternative mechanism to integrate, participate in and identify a developmental context.

Despite ambiguities and difficulties associated with the term, empowerment is important to understand from a general perspective. The World Bank (2011) conceptualises empowerment as the course of action needed for building the capacity of a person or group in individual and collective dimensions so that the person or group can make choices and act upon them as they desire. Action is a key point of this strategy, and requires recognition of accomplishments and achievements, and improvements in structural and organisational efficiency for the attainment of resources and their adequate utilisation. The Swiss Agency for Development and Cooperation (2004) considers empowerment as a way for the disadvantaged to be provided with equal rights and productive resources, to raise a voice for betterment of society.

Eyben *et al.* (2008) conceive empowerment as the change in individuals and groups, aware their existing status of poverty, acting against this deprivation by transforming power relations in their society. Empowerment in this context is considered to eradicate poverty (Bachrach & Baratz, 1970) and to initiate multidimensional and interdependent transformative processes in the economic, political and social structures that reproduce poverty and segregation, allowing marginalised and poor people to participate meaningfully in their futures (Alsop *et al.*, 2006a; Cornwall *et al.*, 2008). Empowerment can enhance the capacity both at individual and

community level to solve inequality issues relating to poverty and social injustice (Luttrell & Quiroz, 2008).

Empowerment is essential if people are to change their deprived condition of self-sufficiency, because marginalised people lose their self-confidence and sense of accomplishment because of insufficient opportunities for self-determination. This can impact on their condition psychologically, socially and economically. Empowerment is thus a way to provide fundamental opportunities to marginalised people, enhancing their self-respect by increasing their religious, social, political, economic and educational proficiencies at an individual level without regarding caste, creed, ethnicity or gender differences. According to Pettit (2012), in order to empower marginalised people (having insufficient opportunities), one must pay attention to their social, political and economic contexts.

The emerging awareness of poverty as a condition behind the unempowered status of individuals makes this an important issue for study. Poverty is a multi-dimensional phenomenon, concerned with imbalances in social relations which can lead to insufficient household income, and consequently, to an absence of decision-making authority, lack of access to resources, lack of respect, dignity, and human rights, and absence from political and economic life. Hackmann (2012) noted that all these barriers restrict impoverished men and women from being part of development processes. As poverty is the main cause of unequal power among different sections of society, initiating poverty reduction programs, including microcredit programs and self-help groups, are recommended to be initiated worldwide (Scott, 2012). These initiatives should be aimed to benefit the unempowered so that they can be empowered socially, culturally and, most importantly, economically; and can effectively contribute to their families' welfare and help reduce their poverty.

Empowerment deals with power imbalances and is a way to eradicate poverty by offering equal opportunities and building a capacity for well-being, generally and women's development, particularly. The Organization for Economic Co-operation and Development (OECD) policy statement on empowerment's impact on poverty eradication affirms that a steady and comprehensive strategy for poverty eradication must involve the poor and marginalised as key role players, so that they may be its direct beneficiaries. This necessitates providing access to resources, assets and

opportunities to excel in economic development, which will enhance their social, political, and economic empowerment, provide more equitable benefits to all, and reduce the poverty of those least economically endowed.

Empowerment is an ongoing process (Mosedale, 2005); through this practice one may improve command over all aspects of life. Furthermore it boosts one's morale to take control over life, and this has the potential to influence the community in particular and humanity in general. Consequently, empowerment can be defined as a process which provides a group or persons with the authority to lead their lives in the desired manner and make decisions for their inner satisfaction. This requires a continuous dissection of prevailing social structures if it is to be made meaningful (Page & Czuba, 1999).

Once the concept of empowerment is understood in a broad context but with its roots embedded in poverty, understanding empowerment in relation to women-specific issues is important. This is because evidence has shown that most of the poor are women; they are often considered weaker, record higher illiteracy rates, and have the least access to resources (Pearce, 1978; Townson, 2009). As Pearce (1978) and Townson (2009) claim, their poverty is the root cause of their unempowered status in society. Development interventions should thus focus on meeting practical needs to reduce poverty, so that this unempowered section of society can progress (Mayoux, 2000).

### **4.3 Women's empowerment**

Women's empowerment is receiving encouraging recognition in international agenda, not only in consideration of human rights, but as a way to fill gaps in the development process to lead to a sustainable and better society. The National Academy of Agriculture Sciences (2001) conceptualised empowerment from a women's perspective, and terms it a productive and multi-dimensional practice that endows a sense of individuality that may affect women lives in all spheres and in all regards. Women's empowerment refers to economic self-sufficiency, adequate availability of resources and assets, physical mobility, the capacity to make decisions, and social and political awareness. This is in line with the United Nations Children's Fund (1994), which stated that through empowerment, women become

the beneficiary of welfare services, while having access, possession and control of productive assets, and being made aware of their rights. According to UNICEF, only when empowered can women benefit from development processes, have access to resources, and acquire gender equality in all areas of life.

Under the platform of United Nations Division for Advancement of Women, the Fourth International Conference on Women, held at Beijing in 1995, emphasised that women must be integrated in development processes in every sphere of life to achieve empowerment in every dimension. Furthermore, they must participate in decision-making for their own rights; this will consequently have a significant impact on the goal of accomplishing gender equality, peace and development in the world.

UN Women (the United Nations Development Fund for Women) also endorses the need for economic empowerment of women, including their access to and control over productive resources, if they are to share the benefits of sustainable development. Women will benefit by achieving two important goals, gender equality and poverty reduction, if they are empowered economically. This in turn will enhance the pace of economic growth at the individual and community levels.

The Canadian International Development Agency (2010) states in its gender equality policy that empowerment is a prerequisite for women to achieve gender equality and become aware of unequal power relations, to command their lives in whatever way they want and to strengthen them in such manner that they can confront discriminatory behaviour against them in home and society. CIDA (2010) has a strong belief that gender equality in participation leads to the empowerment of people to develop in every aspect of life. This necessitates giving the right to make decisions to both men and women, so that they can act upon these decisions, setting goals for their satisfaction and striving to attain them by gaining expertise and self-awareness and overcoming constraints. Thus empowerment is both a process and an outcome, and requires every individual to contribute to transforming social, cultural and political processes to empower themselves. The same is argued by Mosedale (2005).



According to Luttrell & Quiroz (2008), women's empowerment is about integrating gender without any discrimination to women in mainstreaming development. Mayoux (2003) affirms this concept of women's empowerment and extends it to the individual level of each person making choices and having capacity to transform power relationships within society in order to acquire autonomy and self-confidence. Malhotra *et al.* (2002) describe women's empowerment as enabling women to make their own choices regarding their lives and their family, an idea in accordance with Kabeer (1999), who conceptualises women's empowerment as a process of change in which disempowered people gain enough ability to make choices that are of strategic importance to their lives, and therefore include power at its very root.

The United Nations Division for the Advancement of Women (2009) conducted a worldwide survey of women's role in development, and argues that control of and access to economic and material resources are necessary for women to accomplish the millennium development goal of gender equality and economic development. Policies must be made at state level to develop women's accessibility to and power over productive resources so that they can be effectively empowered and remain active in the processes of mainstream development. For this purpose, equal opportunities in education and training, as well as equal employment and just remuneration are emphasised. Acharya *et al.* (2005) suggest that women's adult literacy programmes must be initiated in traditional societies with unequal welfare and education facilities, as a way to provide adequate education to illiterate females so that they can be aware of their rights and responsibilities and may be empowered.

Power is the fundamental concept of empowerment, and therefore power and empowerment are repeatedly mentioned in the development discourses of agencies, state actors and non-governmental organisations. Allen (1999, 2013) envisions power as empowerment, and considers it an optimal strategy to incorporate women in development processes in patriarchal societies. Advocates of feminism argue that in patriarchal societies, men have superiority over women because of women's enforced subordinate status (Allen, 2013). Thus, power must be given to women to transform this status. The European Commission's programme of Mainstreaming Gender dimension in Water Resources Development and Management in the Mediterranean region (GEWAMED) explain empowerment as a bottom-up course of

action, not a top-down process, and relate it to reforms in the power structures of a society through conscious efforts, so that the marginalised can be mainstreamed using capacity-building measures, and subordinating behaviour can be eradicated. It also asserts that power transformation is an ongoing process that requires a great deal of competency on the part of development agencies to design such strategies to make women more empowered.

Opportunity structure refers, to whether a person or group can make choices according to inner-self-satisfaction. However, the impact of choices largely depends on circumstantial and institutional contexts (Alsop *et al.*, 2006). Opportunity structures are institutional constraints formed by society to influence behaviour and outcomes of choices people make (North, 1990). These institutions may be formal or informal.

*Formal institutions include rules and laws that govern the operation of political processes, public services, private organizations, and markets. Informal institutions include the 'unofficial' rules that structure incentives and govern relationships within organizations such as bureaucracies, firms, or industries, as well as the informal cultural practices, value systems, and norms of behaviour that operate in households or among social groups or communities (Alsop et al. 2006, p. 13).*

Practically, formal and informal institutions inhibit any change in relational structures and try to maintain inequalities within a society. Changes in relational social structures enable women's empowerment, and there are various dimensions to this aspect of empowerment in the development discourse. According to Page and Czuba (1999), social empowerment is about transforming prevailing conditions of society so that the marginalised can become an effective and recognised part of it and may lead their lives as they desire by perpetuating bodily integrity, receiving rightful rewards for their work, and being facilitated by public services such as health and education. Piron and Watkins (2004) argue that political empowerment necessitates both equal gender representation in political institutions and enhancement of the voice of the disempowered so that everyone one can engage in decision-making and policy-making process that affects their lives and the lives of others. Again, such changes also require changes in social and cultural attitudes.

Economic empowerment utilises an individual's capacity to contribute to economic activities. It is meant to bring economic self-sufficiency, so that each person's contribution is acknowledged, and each receives their share of respect and rightful distribution of returns. For this purpose, it is obligatory to change institutional mindsets and norms that slow the development pace and foster gender discrimination. Cultural empowerment may require transformation of the cultural norms and prevailing standards of society (Stromquist, 1995) so that the marginalised can engage in positive cultural change.

According to Mosedale (2005) empowerment has many dimensions such as sociological, economic and psychological. CIDA (1996) focuses on four of these: legal, political, economic and social, while the US Agency for International Development emphasises gender, political and economic empowerment and the Norwegian Agency for Development Cooperation considers individual, collective and social dimensions of empowerment. The Department for International Development and German Development Cooperation regards empowerment to be based in psychological, social, economic and political dimensions, whereas the Oxford Committee for Famine Relief lists people's self-awareness and social, political, and women's empowerment. Narayan (2002) opines that the economic, social, political, and women's dimensions are the most important to achieve empowerment. Jejeebhoy (1995) focuses on self-reliance in physical and emotional states and economic autonomy, knowledge gain and decision-making authority as dimensions of empowerment, whereas Stromquist (1995) cites the relevant dimensions of empowerment as the psychological, economic, cognitive, and political.

Sen (1999a) argues that empowerment includes gender equality in access to basic welfare services including formal and informal education, health, resources, roles and responsibilities, and decision-making power. Rowlands (1997) emphasises that empowerment should be achieved at the personal, close relationship and collective levels. Kabeer's (1999) ability to make choices has three dimensions: resources, agency, and achievement. Malhotra *et al.* (2002) argue that the dimensions of empowerment are broad in scope, having sub-domains. In order to state that women are empowered in a particular dimension, they must be empowered in all domains of

that dimension. Malhotra *et al.* (2002) suggest that 'women's empowerment needs to occur along the following dimensions: economic, socio-cultural, familial/interpersonal, legal, political, and psychological' (2002, p. 13). These may be divided into sub-domains so that women's empowerment may be evaluated in a more comprehensive manner. Empowerment is a multidimensional concept and requires a great deal of effort to target the marginalised and significantly improve their situation. For this purpose measurement is necessary, but there are certain limitations to this because of inadequate circumstances, which are discussed here.

Women's empowerment is a comprehensive concept and requires an extensive study of its origin, basics and impact on development. For this reason, a brief description of different frameworks defining women's empowerment and approaches to it need to be studied.

#### **4.4 Women's empowerment frameworks**

Women's empowerment has been explained in different ways by various researchers and scholars. The basic intent is to design a framework for a complex and multidimensional understanding of the concept. Some of the more influential theories and approaches are elucidated below.

Sardenberg (2008) distinguished two fundamental approaches to women's empowerment: liberal empowerment and liberating empowerment. Liberal empowerment has its origins not only in the concept of liberalism, but also in the gender equality argument of liberal feminists who stress the importance of equal opportunities for women. Baehr (2008) aimed to integrate women in the prevailing social and cultural structures of society and to provide equal facilities in health, education, training and other services, and equal opportunities in development for women, without challenging existing social structures (Karl, 1995; Oxaal & Baden, 1997). Sardenberg (2008) argues that the liberal perspective emphasises the eradication of poverty and women's empowerment as tools for development. This approach does not take into consideration existing power relations in society, but deals with technical aspects of empowerment.

Women in Development (WID) endorses the liberal approach, emphasising women's productive role in development (see for example, Jaquette (1982); Rathgeber (1990); Kabeer (1994); Razavi & Miller (1995)). Liberal empowerment does not deal with the reasons behind inequality such as class, ethnicity, and other social behaviours; rather, it focuses on integrating women into development to empower them. This approach does not always fulfil its purposes, as has been found in several research projects that evaluated development projects framed and implemented under the liberal platform (Staudt, 1978; Dey, 1981; Buvinic, 1986). The basic shortcoming of the liberal empowerment framework is that it only emphasises integrating women in the due course of development without any assurances of fair distribution of the benefits (Kabeer, 1994).

As an alternative to liberal empowerment, *liberating* empowerment focuses on power relations in society. From this perspective, empowerment is the tool by which women can acquire autonomy and the eradication of poverty (Kabeer, 1999) by changing existing power relationships (Sardenberg, 2008). As empowerment is a process by which 'those who have been denied the ability to make strategic life choices acquire such an ability' (Kabeer, 1999, p. 435), liberating empowerment is in accordance with the argument that the condition of being empowered has three interlinked dimensions: resources, which include the prerequisites for empowerment; agency, which is the ability both to make choices for strategic actions and to take those actions; and achievements, which are the consequences of the choices made. However, choices and their consequences are contextual and may not necessarily transform the circumstances of an individual. Women's choices made for their lives may change their social status in a significant way, but there is still the possibility that they may not obtain all desired outcomes. Thus it can be argued that liberating empowerment is not only aimed at poverty reduction, but at the transformation of gender discrimination in social structures by empowering women at the individual as well as the community level.

Sardenberg (2008) argues that Kabeer's concept of empowerment is readily applicable at individual level but cannot be applied at the wider social level, as it does not specify the uses of agency: improving social structures on one hand may deepen the prevailing patriarchy and economic subordination of women on the other.

In this regard, Romano (2002, p. 18) argues that empowerment is ‘relational and conflicting’ in nature as it is concerned with power relationships for a person in a particular situation and confronts patriarchy with the intent to transform social structures; therefore ‘conflict and coalition’ are the basics of ‘liberating empowerment’ from women’s perspective. Sardenberg (2008) suggests that power relations must be viewed comprehensively in a broader level in order to benefit those most marginalised, and so that liberating empowerment can be acquired without racial, class or ethnic discrimination; her strategy was elaborated in the design of the Feminist Political Platform in 2002 and was the basis of the Action Plans for Women in 2004 and 2007.

The fundamental objective of human development and empowerment is to make people aware of their rights and responsibilities, and make them conscious that they can enable themselves to make change in their lives and community. To do this, people have capability and should be provided with opportunities to exercise their desires and goals. This idea is termed the capability approach by Sen, who argues that ‘capability reflects a person’s freedom to choose between different ways of living’ (1999a, p. 44). Being healthy and educated, being able to survive, being married to a loved one and having relationships are all capabilities. Sen incorporates a variety of ideas for the achievement of welfare termed ‘functionings’, which note the distinction between individuals’ ‘being’ and ‘doing’, and recognises the struggle for a better life and making decisions to achieve it. Sen’s approach emphasises struggle rather than on mere welfare access, which is not part of development practice, emphasising that people must have the right to make decisions about their desired life. Sen argues that freedom to make decisions, which is termed ‘agency’, gives rise to empowerment, and when incorporated with capabilities constitutes development. Agency as the key to empowerment opposes top-down approaches to development.

Sen (1989) describes three fundamental concepts of the capability approach - functioning, capabilities and agency.

- **Functioning** is described as the ‘doing’ and ‘being’ which are considered important by the person to ensure quality of life (Sen, 1992). Functioning is achievement, and includes necessary deeds for the betterment of human

beings: for example, access to basic health facilities to reduce the death rate, provision of sufficient food for everyone, and making basic life choices in general and the achievement of self-reliance, increasing self-esteem and self-confidence in particular.

- **Capabilities** are the freedom to achieve different combinations of functionings, i.e., to experiment with different ways of living and experience their impacts. Capability involves not only achievements but freedom of choice about functionings, taking into consideration the impact of these choices on life.
- **Agency** is an expansion of freedom for acting on those choices to achieve desired functioning. Agency is a freedom to act for the accomplishment of set goals and involves freedom in a particular situation. According to Sen (1999b), an agent is responsible for taking actions that will bring change in a particular condition.

Sen's (1985) capability approach tries to clarify the ambiguities of contemporary welfare approaches. It necessitates the assessment of one's whole circumstances rather than merely concentrating on the resources provided, as utilisation of resources varies among individuals; capability emphasises comprehensive evaluation and assessment of functionings in the broader fields of real freedom, individual differences, and the varying nature of activities and opportunities within a society; not only on commodities and insufficient knowledge of the person's circumstances within which he/she has made functionings.

Stromquist (1995) carried out work on women's empowerment at more advanced level and argues that empowerment 'brings up the question of personal agency rather than reliance on intermediaries, one that links action to needs, and one that results in making significant collective change. It is also a concept that does not merely concern personal identity but brings out a broader analysis of human rights and social justice' (1995, p. 13). Women's empowerment recognises individuality and personal rights, and focuses on justice in social structures. Stromquist sees the disempowered as having to strive for change to occur in their status. Women are subjugated because of cultural norms, religious myths or established social standards that place women in an inferior position. Empowerment is a way to transform

relational structures in society for women, and so requires the activation of a political process that enables policy-makers and state actor to change existing levels of discrimination. Stromquist (1995) explains empowerment as a socio-political concept that has cognitive, psychological, economic, and political components. The cognitive component is concerned with women's consciousness of their subordination and its root causes, including self-awareness, sexuality and legal rights knowledge, it requires a great deal of competency to challenge existing constraints. The psychological component is concerned with the inner feelings of women, their satisfaction in improving their condition and their hope for a future in which they overcome their state of subjugation; however, this needs a strong backup of resources. The economic component involves invoking a skilled strategy of involving women in economic activities so that they can generate income. The fourth dimension is political empowerment, and involves a transformation of social structures that requires awareness at the individual as well as the collective level.

Kabeer takes the key term power as the central concept in empowerment, which she defines as the process by which 'those who have been denied the ability to make strategic life choices acquire such an ability' (1999, p. 437). As to empower someone, he must be disempowered at first place, this phenomenon of empowerment is particularly applicable to women because they are generally disempowered at the family as well as at the community level, in comparison to men. Kabeer, however, argues that men cannot be regarded as empowered if they suffer from poor economic conditions, even if they have domination over women in homes and communities. This approach to empowerment necessitates great efforts in broad-spectrum policy implementation to empower women. Kabeer's concept of empowerment requires acquisition of the capacity to make choices of strategic significance in life, some of which are more significant and thus are influential in defining other choices, less substantial but still necessary for quality of life; this in turn makes it necessary to determine priority in choices. First order choices may include decisions about livelihood and friends, marriage, bearing children and having rights over them, and mobility; all are imperative for people to live the lives they desire, and have vital impacts on that life.



Kabeer (1999) designed a framework of empowerment consisting of three distinct, indivisible, but interrelated dimensions:

- resources: prerequisites for making choices
- agency: the process of making choices
- achievements: outcomes or potentials obtained by the choices made

She describes resources as both material and non-material; material resources are necessary for conventional economic autonomy and include land and assets; non-material resources are essential to acquire further abilities at individual, community and organisational levels, and may include human and social resources and relational structures such as the social contracts shaping family, community, and state. Non-material resources affect cultural and social rules and norms, distributing social roles and responsibilities at different levels by authoritative actors within particular contexts. These rules and norms thus define the boundaries of choice for individuals according to their status. However, Kabeer (1999) emphasises the significance of resources and the conditions of access to them, arguing that accessibility to resources, whether material or non-material, can be determined by exploitative practices or by the ethical standards prevalent in a society.

Feminists and human activists argue that human agency (self-efficacy) is needed for the acquisition of the ability to make choices (Kabeer, 1999). Kabeer (1999) defines agency as the capacity to determine goals and strive for them. It involves a person's idea of agency in self-motivation and the desire to exercise choice. Generally, agency is considered as a sense of authority in decision-making that may include negotiation, bargaining, exploitation and deception, sedition and opposition. This dimension of empowerment challenges and strives to transform the status quo. Her further description shows that agency may be perceived positively or negatively in the context of power. If agency is taken in a generative and productive aspect of power (power to), it will positively strive to enable people to make desired choices for their own lives and fulfil their goals while confronting restrictions. On the other hand, agency assumes a negative course if it is imposed by dominant people (power over) implementing particular choices which may coerce others' to follow unwished-for courses. Unfortunately, agency is often used in its negative sense as privileged,

dominant authoritarians subjugate marginalised people and enforce their disempowerment by the uneven distribution of resources, roles and responsibilities.

Achievements are related to consequences, as they are the result of choices. Achievements may vary according to capacity of making choices, rather than differences in choice. In Kabeer's (2005) framework of empowerment, resources and agency together give rise to individual capability, the ability of individuals to lead their lives in their preferred way, whereas achievements involve the initiatives taken to achieve a particular choice in life and the limitations encountered during their implementation which affect the desired outcome. Power inequalities in innate social, cultural or economic levels may not be the sole reason for inconsistency of achievements; these may also be attributed to laziness, incompetence and lack of proficiency.

It can be inferred from Kabeer's concept of empowerment that this process needs change at each and every level: from self-awareness, to access to resources at individual level, to changes in relationships at household level, to organisational restructuring and corrections in hierarchies at community and state levels.

Mosedale (2005), on the other hand, explains women's empowerment as the process of realising the potential in women to do better for their lives with reorientation of the roles and responsibilities that shape their capabilities even in the presence of constraints. Her concept of empowerment differs from Kabeer's in two aspects:

- The gendered nature of women's disempowerment is emphasised in Mosedale's framework of empowerment, as against that of Kabeer's. Women are disempowered fundamentally because they are women, and are expected to take subordinate roles, responsibilities and rights in both home and societies; hence it is imperative for women to work against their state of disempowerment by transforming gender roles.
- Mosedale focuses on the ability of women to make choices, arguing that to extend the spectrum of possibilities in agency and potential will benefit women in the long run.

Another framework is that by Bennett (2002) who puts forth that social inclusion and empowerment complement each other while remaining distinctive and contributing equally in the growth of the poorer and marginalized. She contends that the state of being empowered requires an enhancement in assets and the capability to sustain the status, along with the achievement of social inclusion, which is described as getting rid of social and institutional constraints and enhancing opportunities to access productive resources. It is noteworthy that empowerment occurs when the marginalised themselves strive for it; it involves self-acceptance and a strong inner sense of self on the part of disempowered. Social inclusion, however, is exercised from above by systematic change in order to create harmony and gender equity in society, and is essential if empowerment is to be sustained.

The abovementioned theories and frameworks find power to be the root term of empowerment; hence it is imperative to understand what the essentials of power are, as acquisition of empowerment is ultimately associated with confronting and reforming the power relations that have caused disempowerment and the absence of choice and well-being (Nosheen *et al.*, 2008). A range of literature about the concept, operation and relations of power (for example Bachrach & Baratz, 1970; Lukes, 1974; Foucault, 1982; Rowlands, 1997), lead to different interpretations of empowerment, but it is well established that power is not merely ‘power over’ but has broader perspectives (Luttrell & Quiroz, 2008). Dahl (1957) notes that power was first characterised as ‘power over’ in the social sciences, to specify the authority of one over another to the extent that the powerful can affect the decisions of the marginalised; therefore power arises from conflicts between people. Hartsock (1983) considers power as productive in nature rather than dominating, as in the case of boosting someone’s morale by a motivational act carried out by others. Likewise, Moser (1993) argues that power gain by women should not be for suppression of others but to augment women’s capacity of acquiring self-esteem, self-awareness and self-reliance. Rowlands (1997) categorises four types of power relations to differentiate their impact on empowerment discourse:

- ‘Power over’: controlling power (the ability to influence and victimise).
- ‘Power to’: generative or productive power (ability to create innovative opportunities without domination).

- ‘Power with’: ability to perform collective actions and develop a realisation of teamwork and its benefits, confronting problems as a group (Moffat *et al.*, 1991).
- ‘Power from within’: ability of inner consciousness, power and distinctiveness that is the basis of each individual. It creates awareness of self-esteem, respect and understanding, of giving respect to others, while having a sense of equality (Moffat *et al.*, 1991)

Rowlands (1997) explains that if power is defined as ‘power over’, it considers power to be exercised by the strong over the weaker, which in the broader aspects of social structures, political traits, economic inequalities or cultural values subjugates the marginalised. Power is a zero-sum game in this regard, where one has more power and others have less; if the stronger suppresses the weaker, it becomes a crucial situation. Under this definition, if women get power over men it will worsen the status of men, which is the reason why women are not being empowered as men will be dominated by women. This is implied by Luttrell and Quiroz (2008), who argue about the non-transforming nature of ‘power over’ others, and emphasise the continuation of prevailing social and economic scenarios. GEWAMED asserts that power should be taken in the sense of ‘power within’ for raising self-awareness, ‘power with’ for moving ahead collectively for a purpose, and ‘power to’ transform a situation by making decisions, instead of ‘power over’ other human beings to victimise them.

Batliwala (1995) emphasises women’s empowerment will not make men disempowered and argues that gender discrimination in empowerment discourse should not be negatively used. Likewise, Kabeer (1999) argues that empowerment should not be a replacement of one form of power with another, but rather an increased choice of power that should not reproduce social inequalities or restrict the rights of others. Luttrell and Quiroz (2008) also note that ‘power with’ is a form of power gain that does not diminish others’ power but strengthens it, while Rowlands (1997) describes ‘power to’ as concerned with decision-making ability, and ‘power within’ as building self-awareness. For acquisition of such power one must start with the self, with confidence and consciousness building, so that rights, capabilities and potentials can be acknowledged.

The literature on empowerment and development confirms that empowerment is imperative for poverty reduction and integrating the marginalised so that they may participate in development, and also confirms that it may involve change in social, political, cultural, economic and legal structures of a society (Kabeer, 2005; Cornwall *et al.*, 2008; Pettit, 2012). Pettit adds that empowerment and participation are deeply complementary and can be considered means and ends, processes and outcomes (2012, p. 2). Karl (1995) considers that the process of empowerment entails self-consciousness and capacity building measures taken for greater participation and enhanced decision-making powers, by exercising transformation in a particular situation. Oxaal and Baden (1997) term empowerment and participation as different connotations of the same concept, and argue that empowerment can be acquired with the help of quality participation in all processes regarding making and executing decisions. Thus, participation is a road to empowerment, without which it cannot be attained (Buckley, 2000).

When the power structure of society is transformed to integrate women by giving them opportunities in every sphere, this will ensure their participation and in turn empower them, uplift their social standing and improve their development status. Empowerment is a pathway to development and better life. This concept of empowerment as a pathway to development is gaining much popularity in contemporary literature. Social scientists across the globe, but particularly in developing countries, are focusing more on this concept, highlighting its importance and constantly refining its definition.

#### **4.5 Development discourse and women's empowerment**

The empowerment of women is an essential goal of development agendas and has been enjoying an ever-increasing significance in gender and development discourse. Feminist goals, when merged with official development policies, achieve more success than otherwise (Kabeer, 1999). Moser's (1989) suggestion is in accordance with the contention that development is possible through women's empowerment, and that this requires gender planning along with bottom-up and relational transformation strategies.

#### **4.5.1 Women in development approach (WID)**

Boserup (1970) analyses women's contribution to economic growth and the gendered division that prevails in developing agrarian economies worldwide. She assesses technological transformations in the agricultural sector and their impact on gendered labour, and concludes that women are active participants in this sector, heavily involved in lessening the burden of men in agricultural activities. However, their work is not fully acknowledged: "in the vast and ever-growing literature on economic development, reflections on the particular problems of women are few and far between" (Boserup, in Benería, 1987, p. vii). Other research in the agricultural sector support Boserup's assessment (Stamp, 1989). This provides the foundation for the WID framework which is intended to integrate women in development strategies so that their productivity can be enhanced and their role acknowledged, so they can take part in policy and development processes to overcome the underprivileged conditions of women at all stages and at all levels (GEWAMED and Taylor, 1999).

In the early 1970s, the WID approach was initiated because modernisation theories, which were expected to improve the living standard and productivity of women in developing countries by providing better education and employment to both men and women and transforming agricultural societies into industrialised ones (Schultz, 1961) were not, in fact, uplifting women's lives, but worsening their status at both individual and community level (Boserup, 1970; Lim, 1981). In order to rectify this situation and empower women, the United Nations provides assistance to member countries (Tinker, 1990). Proponents of the WID approach lay emphasis on the need to mainstream women in development discourse by providing them with improved education and health and welfare services, and with equal opportunities in political and social aspects of life (Razavi & Miller, 1995).

Advocates of WID argue that traditional behaviours enforcing the subordinate role of women in male-dominated societies are responsible for the deprived conditions women face, and that it is important to facilitate girls and women by providing equal opportunity programs and legislating non-discriminatory laws (Connell, 1987). The WID approach is necessary to implement, as welfare, equality and poverty eradication are distinct subjects of its approach. According to Tinker (1990),

inadequate access to assets and resources is the fundamental reason behind the failure to recognise the participation of women. The WID school of thought is that women's work is overlooked in development policies, and they are positioned as housewives and mothers, supposedly passive members of welfare (Boserup, 1970; Kabeer, 1994). WID emphasises that marginalised women can be made an efficient part of development by the provision of equal opportunities in every sphere of society and equal productive resources (Kabeer, 1994), rather than by directly confronting existing social structures of female subordination and subjugation (Mbilinyi, 1984).

Yet there has been limited effectiveness and disappointing results in instances where development projects have been designed solely to integrate women in economic growth. An example is that of rice irrigation project in Gambia (Dey, 1981; Webb, 1991) in which women's participation was ensured: their participation was not meaningful because of their limited interest, which was largely attributed to the failure to distribute the development's benefits evenly to both genders. It was necessary to rethink the approach so that women saw themselves as benefiting from such development projects, rather than merely being included in mainstreaming strategies (Razavi & Miller, 1995). Opponents of WID point to the limitations in this approach and suggest that it does not address the prevailing fact of gender discrimination (Taylor, 1999); this criticism has given rise to an alternative approach, popularly known as the gender and development approach.

#### **4.5.2 Gender and development approach (GAD)**

When it was observed that WID was not delivering the desired results and improving the condition of women, GAD was developed to transform prevailing gender roles: rather than isolating women as passive recipients of welfare, it helped them become active agents of change (Rathgeber, 1990). Rowlands (1997) argues that GAD perfectly addresses the relational power structure in society and the subordinate status of women.

The essentials of GAD are to fulfil women's practical as well as strategic needs by addressing power imbalances between men and women, including gendered roles and responsibilities (GEWAMED). It links with power distribution in society,

recognising multiple power relations in women's lives, and 'tries to reflect the totality of women's experience and the nature of power relations with other actors in a given context' (Rathgeber, 1995, p. 221). GAD considers that gender roles and relations are socially constructed; therefore women must not be looked at in isolation but in the broader context of gender relationships, by examining structural and institutional aspects of power issues from political, social and economic perspectives (Buckley, 2000).

According to Jaquette (1982), GAD is based on socialist feminism and is concerned with both the productive and reproductive roles of women, and questions the dilemma of women's subordination by focusing on the gendered roles and responsibilities of a society. Feminism from a social perspective takes on the discourse of women's inferior roles and tries to resolve this crisis at an extensive level. Young (1997) sees GAD as aiming to consider society as a whole in political, institutional, cultural and economic perspectives and to reshape them. Likewise, Rathgeber (1990) feels that GAD focuses on the participation of women in development processes from agenda-setting and implementation to its monitoring and evaluation, in order to influence women's lives in an adequate manner. Carloni (1997) stresses the need to integrate women in development projects in a way that will deliver just rewards for their participation rather than merely a slight uplift in their condition.

GAD is about the emancipation of women in every respect, from participation to benefit distribution, and it is the responsibility of stakeholders and policymakers at state level to ensure emancipation by ensuring the provision of equal opportunity in social services. GAD highlights the need for political awareness about women and ensuring their equitable access to resources and land by passing appropriate legislation. It demands commitment from policy and development process-makers to transform organisational structures and power distribution, and hence can be expected to face many hurdles (Rathgeber, 1990). Women's empowerment is a transformative concept and requires rigorous gender mainstreaming in every aspect of life; it is natural that obstacles and hindrances will arise.



## **4.6 Constraints to women's empowerment**

In patriarchal societies where men have every benefit and opportunity of development and women are discriminated against in every respect, even to having limitations placed on their mobility, women's subordination, silence and inferior status are realities of present development discourse. The gendered distribution of roles and responsibilities, and the apportionment of less esteemed activities to women strengthen the situation of women's subjugation, by which they are bound to do unacknowledged reproductive work within the home, while men are responsible for income generation and hence have some autonomy (World Bank, 2009). Gender-based inequalities prevail in resource allocation and control, affecting the capabilities of the marginalised women. Inadequate education, limited skills training, poorly paid employment, insufficient access to productive assets, and disparity in inheritance and land rights are pervasive forms of inequalities in which men are preferred participants in economic growth (Mason and Elizabeth, 2001). These inequities revealed that sexual harassment and unequal treatment in the workplace further depress women's economic circumstances. Folbre (2006) argues that cultural values and social norms and rules that define relational structures in society, according to which the status of human beings is categorised regarding class, race, ethnicity and gendered differences, may restrict a person's access to privileges. All these constraints restrict women from empowering themselves and developing in their particular situation, and thus require initiatives from state actors and policy makers to remedy this situation. The constraints mentioned here however require conducting a careful analysis of past projects with particular focus on interventions taken to empower women and their impact, with follow-up evaluations and studies noting reasons for success or failure of each project.

## **4.7 Women's empowerment interventions and their impact**

Women are generally deprived in education, health and welfare services, and discriminated against in participating in economic opportunities. Having insufficient resources, they are forced into economic dependency on their male counterparts. Interventions are required to ensure their empowerment economically, socially, and psychologically. Scott (2012) examined the impact of the Chars Livelihood

Programme (CLP) on the economic and social empowerment of women in north-west Bangladesh. This programme was launched by the UK government to provide poor women with financial support to purchase cattle. It significantly contributed to women's economic empowerment as they could control their livestock and gain income from them, enabling them to make small purchases as they wished. It was also found to improve self-esteem: by changing their intra-household relationships, it empowered them in small things; however it did not assist in gaining them the right to participate in decision-making on major issues, a failure that was largely attributed to the patriarchal nature of their society.

Acharya *et al.* (2005) observed a women's empowerment initiative in Nepal, evaluating a School and Community Health Project (SCHP) initiated in rural areas as a community development programme by the government of Nepal in collaboration with Japan Medical Association and Japan International Cooperation Agency (JICA). SCHP was designed to better the education sector, child welfare and health services, and women's empowerment. Acharya *et al.* (2005) found that the literacy programme significantly increased women's literacy rate, and the, childhood education awareness programme augmented the formal education provided in these areas. Effectively incorporating women in all components of the programme helped in strengthening women. Hashemi *et al.* (1996) studied two programmes for empowering women launched by the Grameen Bank and the Bangladesh Rural Advancement Committee (BRAC), revealing their significance in eight diverse aspects: mobility, economic empowerment, ability to purchase, liberty from subordination, contributions to major decision-making, enhanced political/legal awareness, the ability to protest and contribution to family support. It is suggested that women's empowerment can be accomplished by raising their awareness of their rights and organising them in a way that protects these rights (Hashemi *et al.* 1996).

A health promotion programme in Yoro (Honduras) was set up by a US volunteer in 1985 to train mothers and health promoters to work in the community health sector. Although the aim of this initiative was to provide better health facilities, the programme had a major impact on women's empowerment at an individual level by building self-awareness and self-confidence and increasing empowerment in

relationships by changing their relationships with husbands and households along with improving health and child nutrition in that area (Rowlands, 1997).

Steele *et al.* (1998) conducted a study in Bangladesh to examine Save the Children, a US-initiated programme for women's empowerment. Four dimensions were considered to examine and measure women's empowerment in this context-specific study: mobility, decision-making in the household, husbands' attitudes towards their wives, and women's attitudes towards their children's education and marriage. It was found that women were not free to move alone; only if they were accompanied could they go shopping, visit healthcare centres or partake in other activities. No autonomy was found to exist for women in households; abusive behaviour from their husbands was the norm.

Mahmud *et al.* (2012) likewise conducted a study to measure women's empowerment in Bangladesh, also assessing four dimensions: self-esteem, decision-making in family matters, mobility, and control over assets, to measure levels of empowerment in 128 villages while considering socio-cultural and demographic factors. They found that 39 per cent of women were empowered in decision-making, while 43 per cent showed empowerment in one of the sub-dimensions of self-esteem; a relatively low percentage (23%) were found to be empowered to control resources. A mere 5 per cent had freedom of mobility. Mahmud *et al.* argue that due to the multi-dimensional nature of empowerment, it is difficult for women to be empowered in all dimensions equally.

In light of the literature cited above, it can be argued that women's empowerment projects are capable of yielding significant results if they are planned and executed in a proper manner. A basic component of planning such projects should be mainstreaming women in the development process and in poverty eradication. As stated in the Millennium Development Goal, 'the empowerment of women is one of the central issues in the process of development for many countries of the world' (Sen 1999b, p. 202); Sen cites the examples of the Grameen Bank and BRAC in Bangladesh, which focuses on and utilise women's potential as an agency for development.

The real challenge for development economists and sociologists lies in developing measures for analysing women's empowerment. According to the Centre for Development and Population Activities (CDPA), gender empowerment analysis is based on three questions: 'who does what, who have access to resources, benefits and opportunities, and who control the resources' (CDPA, p 6). A similar analysis of gender empowerment is used by Desai, who introduced three gender empowerment measures (GEM), including 'control over economic resources, economic participation and decision making, political participation and decision making' (2010, p. 10). Malhotra *et al.* (2002) rank economic and socio-cultural dimensions highly for measuring women's empowerment. Blumberg (1994) shares this belief and claims that strong and independent control over income and decision-making contribute heavily to women's empowerment.

Studying the same aspects of women's empowerment, Bharathi and Badiger (2011) and Naved (1994) utilise economic and social measures to assess the impact of project interventions on women. This approach is strongly supported by Bustamante-Gavino *et al.* (2011), who conducted a qualitative study of women's empowerment in Pakistan and recognise economic stability and social acceptability as leading factors contributing to women's empowerment in that context. Bustamante-Gavino *et al.* (2011) took a different approach, using qualitative analysis and not measuring quantitative indicators.

Interventions to improve women's status by integrating them into the development agenda may empower them in various areas of their lives. However, it is necessary to evaluate and monitor the development policies to know whether they are making any real difference. The first step in this regard requires measurement of women's empowerment.

#### **4.8 Measuring women's empowerment**

Conceptualising and measuring women's empowerment is difficult to accomplish using conventional measures of power derived from quantitative data, where the subordination of women is present in power and gender relations. Researchers once measured empowerment using socio-economic indicators that were widely used, while developing socio-demographic and development goals; however, their aptness

is questionable (Pradhan, 2003). Empowerment can be measured in a true sense if appropriate measurement variables or a framework concerning measurement is designed that completely describes the realities and outcomes of empowerment.

Mosedale's framework for analysing and assessing empowerment includes a few basic parameters: identifying constraint to action, relating the process of development to women's agency, and most significantly, noting the impact of women's agency on empowerment.

- Identifying constraints to actions: this defines prevailing power relations in a particular situation before any choice or action has been taken. It specifies the discriminations against women in that particular situation. However, it is difficult to assess all constraints in any situation, so only the most influential and prominent constraints are considered.
- Identifying how women's agency has developed: this is the process of identifying methodology and determining how the identified constraints will be addressed to mitigate their influence, as agency will increase automatically with the lessening of constraints; therefore, agency must have capability to encompass women's empowerment while facing the hindrances that arise as a result of its transformatory nature.
- Identifying how women's agency changed constraints to action: this identifies whether women's agency has reduced constraints or not. Women's empowerment will be obvious if constraints are being reduced as a result of women's actions, as empowerment is truly achieved when women have striven for it and acquired it on their own.

Alsop *et al.* (2006) noted that empowerment-measuring frameworks are not easy to design. Malhotra *et al.* (2002) suggest that approaches of measurement and analysis of empowerment must analyse the whole transformational process of empowerment. Giddens (1984) focuses on the relationship between agency and structure while discussing the analytic framework of empowerment measurement. Alsop *et al.* (2006) elaborate on the relationship of agency and opportunity as offering a framework to analyse empowerment: as empowerment is about the capacity to make choices and capacity means to undergo a process of transforming these choices into the desired outcome.

Agency is the ability of a person or group that enables them to make choices. For measuring empowerment, assets (resources) substantially affect a person's or group's agency to make choices. Resources may be economic, social, or political opportunities, and may enhance an individual's productivity and protection (Moser, 1998; Kabeer, 1999). Alsop *et al.* (2006) find that psychological, informational, organisational, material, social, financial and human assets are of account in empowerment measurement; some of these resources are easy to measure while others are not. Skills and literacy are easy to identify, but there may be difficulty in measuring social capital; measuring psychological assets is even more difficult. Giddens (1984) argues that however complicated these assets are to measure, they are essential. Nussbaum (2006) in this context pinpoints psychological assets as critical for measurement of asset-based agency, as it is imperative to uplift consciousness to make choices, while Pradhan (2003) notes that from the perspective of agency it is possible to measure and analyse decisions made under cultural restrictions, and hence, to measure empowerment.

Empowerment is a complex phenomenon and those dealing with it face great difficulty both in conceptualisation and measurement. It is essential to cope with these difficulties as empowerment is crucial for social inclusion and poverty eradication. Various studies have been conducted to measure empowerment and these limitations have been highlighted.

Empowerment process must be taken as a whole, and all issues concerning this process must be taken into consideration, as empowerment cannot be observed directly: the aggregate outcome may be clear but the latent phenomenon is difficult to assess (Mahmud *et al.*, 2012). Appropriate proxies or indicators can be used to measure it (Ackerly, 1995), but a great deal of proficiency is required in this regard. Empowerment is multi-dimensional phenomenon, and as gender inequalities vary according to context, the empowerment of women differs accordingly (Alsop *et al.*, 2006; Mahmud *et al.*, 2012). Researchers have to be careful in designing indexes or scale variables that measure empowerment so that the objective of using those variables or index can be positively achieved (Malhotra *et al.*, 2002). Data collection for this reason is found to be a significant limitation in various empowerment measurement studies.

Nussbaum (2000) emphasises that empowerment must be measured in such a way that universal elements of gender subordination can be evaluated. No gender development study can be undertaken without involving the socio-cultural context in its designed, so universal standards must be included (Malhotra *et al.*, 2002). However, Beegle *et al.* (2001) argue that given the context-specific nature of empowerment, no standard can be applied universally, and therefore socio-cultural determinants should be used.

#### **4.9 Measuring empowerment: The IFPRI empowerment model**

As mentioned in Chapter 2, the agricultural sector is the most prominent source of livelihood for the majority of the population in developing countries. The question arises whether agriculture is fulfilling the objective of providing economic independence to its labourers, so that they can be empowered and enjoy gender equality to make decisions for their own betterment. Until now no criteria have been developed to assess this question. Realising the need to develop a mechanism to measure empowerment conveyed by agricultural work to the rural population, the International Food Policy Research Institute, in cooperation with the US Feed the Future (FTF) initiative, USAID, and Oxford Poverty and Human Development Initiative (OPHI), designed an innovative index to measure women's empowerment, their achievements and efforts in the agricultural sector by investigating the relationship between women's empowerment, food security, and agricultural growth; and to identify obstacles and weak areas, and refining them (Alsop *et al.*, 2006; Ibrahim & Alkire, 2007). IFPRI addresses those aspects of empowerment in agriculture in developing countries that have been neglected in women's empowerment discourses (Alkire *et al.*, 2012). The model developed by IFPRI is a multidimensional index, created to provide a comprehensive and simple outline to assess empowerment in any region, and thus can be used to make comparisons across regions and time and determine if any improvement has been made in a particular place at a particular time.

As mentioned in the previous section, empowerment is a multidimensional complex phenomenon (Malhotra *et al.*, 2002; Narayan, 2002; Stromquist, 1995), and cannot be assessed using only one or two variables; the IFPRI model, known as 5DE, was designed to measure empowerment across five domains and cover all areas of

women's empowerment by measuring their decision-making power to access resources: the domains are subdivided into ten indicators to provide a more complete sketch of empowered and disempowered women by percentage in each indicator (Alkire *et al.*, 2012). It reveals areas of inadequate advancement by the disempowered, so that help can be targeted to a particular area of need. The methodology developed by Alkire–Foster (Alkire & Foster, 2011) decomposes 5DE into its components to undertake measurements in accordance with the IFPRI model. It conveniently reveals empowerment status, intensity of disempowerment and adequacy of empowerment, and their relative gaps in all indicators, both individually and across all five domains collectively. The IFPRI model presents a comprehensive and convenient way to measure the empowerment ratio and disempowerment intensity of both men and women in the agricultural sector (Alkire *et al.*, 2013).

The five dimensions specified by the IFPRI empowerment model include:

- Production: this deals with making decisions about agricultural activities, including crop production, livestock husbandry and fisheries; and having autonomy in these areas.
- Resources: this relates to ownership, access and the power of making decisions about assets and productive resources.
- Income: this describes control over income and the ability to make decisions about its disposal.
- Leadership: this represents a person's leadership potential
- Time: this refers to the time available for creative and household work, and to having time available for leisure.

By calculating empowerment across these five domains, the IFPRI model offers a comprehensive evaluation of the empowerment of women involved in agriculture. It is distinguished from other models in terms of its approach, strength, comprehensiveness and depth of analysis.

Due to its advantages and relevance to the current research project, this model has been chosen for calculating women's empowerment. Details regarding the methods used by IFPRI to make its calculations are provided in Chapter 5.



# Chapter 5

## METHODOLOGY

### 5.1 Introduction

This chapter is devoted to the discussion of the methodology employed in this study. The chapter contains 10 sections. Section 5.1 is the introductory part of the chapter, outlining the structure of the chapter. Section 5.2 discusses the research paradigm employed in this study. Section 5.3 describes the IFPRI empowerment model. Section 5.4 elaborates IFPRI respondents' individual empowerment score calculations. Section 5.5 contains IFPRI 5DE (Domain of Empowerment). Section 5.6 provides details of the research site. Section 5.7 contains details regarding the questionnaire structure, and Section 5.8 describes the data analysis tools and techniques employed in the study.

### 5.2 Selection of research paradigms

Even though the philosophical foundations of a designed research study remain implicit, they directly influence the practical approach involved in conducting a study. Some researchers consider it a basic step to begin by questioning and focusing on a particular research paradigm to be applied in a study because it influences the researcher's reflections on the research problem, the choice of research methodologies, and the interpretation of results.

The word paradigm originates from the Greek word *paradeiknyai* (Shtarkshall, 2004), and in English denotes a 'cluster of beliefs and dictates which for scientists in a particular discipline influence what should be studied, how research should be done, how results should be interpreted, and so on' (Bryman, 1988, p. 4). According to Jonker and Pennink (2010), a research paradigm is basically a set of fundamental beliefs and assumptions which provide a guide to the researcher. A similar definition is presented by Kuhn (1962), who characterises a paradigm as an integrated set of ideas, variables and issues which are related to a certain methodological approach.

Existing literature mainly focuses on two different dimensions of a research paradigm, positivism and interpretivism (Shanks *et al.*, 1993; Laughlin, 1995; Checkland, 2000; Kalof *et al.*, 2008; Wahyuni, 2012).

The positivistic paradigm emanates from the thoughts of renowned French philosopher August Comte (1798–1857), who emphasised reason and observation as the way to understand human behaviour, and regarded experiments as a technique to develop knowledge. Positivistic thinkers accept and verify this approach of utilising scientific methods for knowledge generation; but this needs to be considered under a particular set of principles and assumptions, which Cohen *et al.* (2000) list as determinism, empiricism, parsimony and generality.

Determinism implies that a particular event is caused by other circumstances, and both are essential to understanding the relationship between cause and effect. Empiricism refers to the collection of verifiable evidence which supports a theory or hypothesis. Parsimony describes the explanation of the event while generality refers to a quality of observation or principle having general application. The positivistic paradigm is based on the principle of the systemisation of knowledge through quantification, which in turn improves the precision of descriptive parameters. The positivistic paradigm utilises a quantitative scientific approach and involves the selection of a research method, such as survey, cross-sectional correlational, longitudinal, experimental, quasi experimental or ex post facto research.

The positivistic paradigm is popular among social scientists, but critics question its approach regarding human behaviour and its method of interpreting social reality and emphasis on replacing objectivity with subjectivity in a designed scientific enquiry. This has given rise to an alternative research paradigm called interpretivism. This paradigm is based on the assertion that reality is a complex and multi-layered phenomenon, and a single phenomenon can have multiple explanations; therefore this school of thought suggests a qualitative approach when conducting a social enquiry. There are two basic human interactions emphasised in the interpretive paradigm: phenomenology and simplistic interactionism.

Phenomenology is focused on human behaviour based on experience, while symbolic interactionism is based on analysis and interpretation of human interactions.

The interpretive paradigm approach employs biographical, ethnological and phenomenological and case study modes of research methods.

The selection of the paradigm to be employed in this study was based on consideration of the nature and kind of research questions that were to be asked, the need for quantification of research data, the need for generalisability, validity and reliability of the data derived from the research questions and pertaining to the objectives, and the need to ensure appropriate depth of analysis. After careful evaluation of the research questions and targeted objectives, the positivistic paradigm was deemed the most appropriate approach as its inherent advantages would ensure healthy and objective research findings. The selection of this paradigm ensured provision of data in numeric form which could be analysed using scientific tools and statistical procedures. Descriptive statistics like mean, median, mode, frequency, standard deviation; and inferential statistics like t-test, ANOVA, regression, correlation or higher multivariate analysis, gave a unique strength to the conclusions derived in the study. Results obtained from a quantitative research paradigm tend to be generalisable and robust; result verification and cross-verification increases its usefulness. This paradigm is least affected by researcher bias and competency. Help from existing theories and literature on the subject under study enhances success.

The selection of this research methodology was consistent with the nature and scope of the research study and hypothesis under consideration. The nature of the study and its intended objectives clearly defined the need for a positivistic approach. The focus of this study is on measuring women's empowerment and analysing its relationship with women's participation in agriculture. Due to limitations of time, resources and scope, the study was limited to one type of farmers – farmers undertaking potato production. The selection of potato producers for this study was based on its growing popularity of potato production in the farming community, including higher economic returns, shorter crop duration and more labour requirements/engagements in the field. Choosing a single crop also helped to narrow the scope of the study to a practical, manageable level.

### **5.3 IFPRI empowerment model**

In Chapter 4 the need and appropriateness of the IFPRI women's empowerment model is explained, with particular reference to this study. The IFPRI model is based on five domains for measuring women's empowerment, based on Alkire's (2005) suggestion that empowerment measures should be domain-focused. These domains are reflective of available literature on empowerment.

#### **5.3.1 Production**

This domain is based on Kabeer's (2001) definition of empowerment and is supported by Alsop *et al.* (2006). To measure empowerment in this domain, two indicators are utilised: input into productive decisions and autonomy in production. These indicators are developed in Ryan & Deci (2011) theory of self-determination.

Input in productive decisions focuses on decision-making. It includes whether an individual participated in an activity like food crop farming, cash crop farming, livestock and poultry raising, how much input respondents had in decisions regarding that activity. It also includes each respondent's assessment on whether she could take personal decisions regarding agricultural production, input purchase, crop selection, crop marketing and livestock raising (Alkire *et al.*, 2012 & Alkire *et al.*, 2013). The answer scale for input in decision-making ranged from 1 (no input) to 5 (input into all decisions). The scale for extent of involvement in decision-making ranged from 1 to 4, with 1 representing no input and 4 the highest input (Alkire *et al.*, 2013). The threshold for adequacy in this indicator was assigned to the mid-level of the answer scale and the two sub indicators were summed up to measure input into productive decisions. An individual is considered adequate if she attains adequacy in one of the two sub indicators (Alkire *et al.*, 2013).

The second indicator used for measuring empowerment in the production domain is autonomy in production. This reflects respondents' capability to make decisions based on their intrinsic values and not motivated by others' acceptance or rejection of their decision. Autonomy in productive decisions was calculated by assessing responses on various aspects of production activity such as livestock, poultry and agricultural production. The scale ranged from 1 (never true) to 4 (always true).

The aim of this section was to capture the reasons behind decisions, and determine whether they were external, introjected, or identified. External reasons are linked to coercion, interjected to pleasing others, and identified to the respondent's own values (Alkire *et al.*, 2013). Before putting it into practice, explanatory factor analysis was performed by IFPRI to ensure that recommended areas of decision-making converged on the same factor; EFA results indicated good convergence. All activity specific indexes were then summed into the indicator under autonomy in production. An individual is accepted as adequate if her score is greater than 1 in at least of the listed areas of decision-making mentioned in questionnaire (Alkire *et al.*, 2013).

### **5.3.2 Resources**

To measure respondents' control over resources, three indicators were selected: ownership, decision and access.

The ownership indicator was designed to evaluate the status of each respondent's ownership of the land or listed assets such as agricultural and non-agricultural land, livestock or any other resources. A respondent is considered to have achieved adequacy if she claims to have sole or joint ownership of the assets, +but limitations are placed by IFPRI for domain adequacy in the case of small assets, including ownership of small items used in poultry raising or small domestic consumable items are discounted. (Alkire *et al.*, 2013) A respondent who reports owning no assets is considered inadequate.

In the decision-making indicator, respondents' ability to participate and make decisions regarding the sale, purchase and transfer of land and assets is measured. This indicator was recommended by IFPRI for this objective, and is based on Fafchamps and Quisumbing's (2002) findings. A value of 1 is attached to respondents who report sole or joint ownership, sale and transfer rights of the land or assets. A value of 0 is assigned to responses that indicate otherwise (Alkire *et al.*, 2013). The respondent is considered adequate if she reports at least one type of right on any listed major asset.

The third indicator used in the resources domain is focused on decisions about credit. A list of recommended sources of credit and questions regarding use of such credit

such as non-governmental organizations, informal or formal lenders or relatives or friends was included in the questionnaire. To achieve adequacy, a respondent must have access to credit and also have used it, and participated in at least one of the decisions in the resources domain as suggested by IFPRI (Alkire *et al.*, 2013).

### **5.3.3 Income**

To evaluate respondents' empowerment in this domain only one indicator was used by IFPRI. This indicator is reflective of an individual's role in decisions concerned with the source and use of income. To measure respondents' control over income, IFPRI recommends including participation in listed activities, level of input, and the extent to which a respondent feels she participates. The scale ranges from 1 (no input) to 5 (input into all decisions). The scale for a respondent's feeling of the extent to which she participate ranges from 1 (not at all) to 4 (to a high extent). IFPRI recommends respondents be considered adequate if they can make a decision on one of the listed activities and also can contribute to decision-making at least to the medium level of the scale. To calculate individual empowerment in the income domain, these sub-indicators are then examined and the respondents are considered adequate if they are considered adequate in at least one of the sub-indicators (Alkire *et al.*, 2013).

### **5.3.4 Leadership**

This domain is designed to measure respondents' potential for leadership, and for this purpose IFPRI utilises two indicators: group membership, and speaking in the community.

This indicator is designed to recognise the importance of social capital as a resource. The IFPRI index considered Meinzen-Dick *et al.*'s (2012) recommendations regarding network and social capital. A respondent is considered adequate in achievement if she is a member of any of the groups, as recommended by IFPRI.

The speaking in public indicator is designed to assess a respondent's ability to speak comfortably in public. The response scale ranges from 1, not at all comfortable, to 5, very comfortable. Response 2, which denotes 'yes but with difficulty', is considered the cut-off. A respondent is considered adequate in this indicator if she can speak

even with difficulty in decisions about infrastructure development in the community, wage payments and logging a protest against misbehaviour of authorities or elected officials.

### 5.3.5 Time

IFPRI divides this domain in two indicators: workload and leisure. Workload is based on the productive and domestic workloads. IFPRI recommends an assessment timetable for calculating respondent status in this domain. IFPRI utilised Bardasi and Wodon's (2006) methodology for establishing cut-off limits for this indicator. The individual is assessed as adequate if her workload is less than 10.5 hours per day, which is the time-poverty cut-off line (Alkire *et al.*, 2013). The leisure activities indicator is designed to capture respondents' satisfaction with leisure activities, including visiting neighbours, watching TV, listening to radio, and taking part in sports. This indicator utilises a scale ranging from 1, not satisfied, to 10, very satisfied. A respondent is considered adequate up to a response level of 5, which denotes neither satisfied nor dissatisfied.

**Table 5.1: Domains, indicators, and weights in women's empowerment**

<b>Domain</b>	<b>Indicator</b>	<b>Weight</b>
<b>Production</b>	Input in productive decisions	1/10
	Autonomy in production	1/10
<b>Resources</b>	Ownership of asset	1/15
	Purchase, sale, or transfer of assets	1/15
	Access to and decisions about credit	1/15
<b>Income</b>	Control over use of income	1/5
<b>Leadership</b>	Group member	1/10
	Speaking in public	1/10
<b>Time</b>	Workload	1/10
	Leisure	1/10

Source: International Food Policy Research Institute (IFPRI)

## 5.4 Respondent's empowerment score

Every respondent is interviewed for her responses and each indicator enlisted and elaborated above is assigned a value of 1 if the respondent achieves adequacy in that indicator and 0 if she is inadequate. This number is multiplied by the individual indicator weight given in Table 5.1. Equal weights are assigned to each of the five domains, and equal weights are assigned to each indicator within that domain. Table 5.1 lists the weights of the each indicator.

A respondent's empowerment score, which also reflects her empowerment status, is the sum of the individual score across all ten indicators. It can be represented mathematically by the following expression:

$$C_i = W_1I_1 + W_2I_2 + \dots + W_dI_d \quad (1)$$

where

$I_i$  is the adequacy score of each indicator; where  $I_i = 1$  if the respondent is adequate in particular indicator and  $I_i = 0$  if the respondent is inadequate.

$W_i$  is weight of each indicator and  $\sum_{i=1}^d W_i = 1$

By using these expressions one can calculate the individual empowerment score.

## 5.5 5DE (Five domains of empowerment)

This sub-index measures the empowerment of the women in the five domains recommended by IFPRI, assesses their disempowerment, and identifies any adequacies of the disempowered in a particular indicator. This presents a clear indication to policy-makers of where to focus work on that particular area to enhance women's empowerment. The disempowerment index ( $M_0$ ) across the five domains is first calculated, then the 5DE can be calculated by a simple expression.

For the construction of the 5DE, two equivalent notations can be used: one considers the percentage of empowered and disempowered women's adequacies; while the other takes the disempowered women's percentages and their corresponding



inadequacies in the respective domains, following Alkire and Foster (2011). We have taken the second notation for the calculation of 5DE.

To calculate the inadequacy scores, the adequacy indicator described for the respondent empowerment score is reversed so that 1 is replaced by 0 and vice versa, now 1 represents inadequacy, and 0 shows adequacy. The inadequacy score for each individual is calculated by summing up the corresponding scores in all indicators:

$$C_i = W_1I_1 + W_2I_2 + \dots + W_dI_d \quad (2)$$

where

$I_i$  is the inadequacy score of each indicator; where  $I_i = 1$  if the respondent is inadequate in particular indicator, and  $I_i = 0$ , if the respondent is adequate.

$W_i$  is the weight of each indicator and  $\sum_{i=1}^d W_i = 1$

The disempowered can be identified by using a cut-off for disempowerment. Cut-off refers to a certain inadequacy score that is regarded to represent disempowerment, denoted by  $k$  and given a value of 0.2. Here a respondent would be regarded disempowered if her inadequacy score is less than or equal to the disempowerment cut-off, and be given a score of 0. This is done to censor the inadequacies ( $C_i(k)$ ) in order to obtain the ‘censored head counts’ (Alkire & Foster, 2011).

Here,

$$C_i(k) = C_i, \text{ if } C_i > k, \quad (3)$$

and

$$C_i(k) = 0, \text{ if } C_i \leq k. \quad (4)$$

For measuring disempowerment index ( $M_0$ ), Alkire and Foster (2011) take into consideration two major quantities: the first counts censored headcounts ( $H_p$ ) by finding the proportion of respondents with inadequacy score greater than  $k$ ; the second calculates the intensity ( $A_p$ ) of their inadequacy.

The first component of the disempowerment index is termed a censored headcount ratio ( $H_p$ ), and is obtained by the expression:

$$H_p = \frac{q}{n} \quad (5)$$

Where  $q$  is the number of respondents regarded as disempowered, and  $n$  is the total population of the sample.

The second component is termed intensity of disempowerment ( $A_p$ ). It is the average score of the disempowered individual's inadequacy and can be assessed by the following expression:

$$A_p = \frac{\sum_{i=1}^n C_i(k)}{q} \quad (6)$$

where  $C_i(k)$  is the censored inadequacy score of respondent 'i' and 'q' is the number of disempowered respondents.

The disempowered index is the product of these two components:

$$M_0 = H_p \times A_p \quad (7)$$

From this, the 5DE is obtained by:

$$5DE = 1 - M_0 \quad (8)$$

Thus it can be inferred that empowerment can be improved by minimising disempowerment, by decreasing the disempowered percentage, or by decreasing the inadequacies of the disempowered women.

Once  $M_0$  has been calculated, it is convenient to decompose it into parts representing the individual censored indicators' contributions to the disempowerment index, to identify the inadequacies of individuals in particular indicators; this is beneficial for making strategies to concentrate on weak areas of empowerment.

In the first step to decompose  $M_0$  by indicators, the censored headcount ratio for each indicator is calculated by adding up the number of disempowered respondents in that particular indicator and dividing it by the total population of the sample:

$$CH = \frac{q}{n} \quad (9)$$

Where  $CH$  is the censored headcount of the indicator,  $q$  is disempowered individuals in that indicator and  $n$  is the total population.

Once the censored headcounts of all indicators are obtained, each individual is multiplied by their respective weight and summed up to give the country's disempowerment index  $M_{0 \text{ country}}$ .

$$M_{0 \text{ country}} = W_1 CH_1 + W_2 CH_2 + \dots + W_{10} CH_{10} \quad (10)$$

Here  $W_1$  is the weight of indicator 1 and  $CH_1$  is its censored headcount ratio and so on, where  $\sum_{i=1}^d W_i = 1$ . The contribution percentage of each censored indicator is thus calculated by:

Contribution of indicator I to

$$M_0 = \frac{W_i CH_i}{M_{0 \text{ country}}} \times 100 \quad (11)$$

The contributions of all indicators regarded by IFPRI will sum to 100 per cent. The relatively higher contribution of the indicators in  $M_0$  reveals the areas that need to improve.

## 5.6 Research area

Even though production of potato in Punjab is much higher as compared to KPK, KPK was selected for this study because apart from having a significant potato area, KPK has a conservative social fabric. Moreover, very limited research work has been undertaken on women's participation and roles in KPK particularly as compared to other provinces in Pakistan. Therefore, this research was focused on KPK. It was also deemed that the most suitable place in KPK is the Hazara Division because it

has better production than other areas in KPK. It has also been chosen for its accessibility and for safety reasons. To further narrow the research area to address the limitations of available time, resources and scope of the study, the research area was further reduced to two districts, Abbottabad and Mansehra, selected based on their concentrations of potato farmers and high acreages under potato crop. A detailed description of the research site is provided in Chapter 6.

A sample of 150 respondents was selected, determined by the research question under study, the research objective, and the available resources and time constraints. The sample of 150 respondents was pre-decided as the scope, nature, time and budget constraints associated with the research work required a selection of a realistic sample size, which at the same time is still representative of the research population.

A total of 75 respondents from each district were interviewed. Each district was again stratified demographically, and five villages selected from each, for a total of ten villages altogether. Respondents were then randomly selected from each of the village. The sampling frame is shown in Table 5.2 below.

**Table 5.2: Districts and villages used in the study**

<b>District</b>	<b>Village</b>	<b>Number of respondents</b>
Abbottabad	Dahtor	15
	Kakul	15
	Kalbagh	15
	Nawansher	15
	Thandachoa	15
Mansehra	Bafa	15
	Bajna	15
	Dodial	15
	Doraha	15
	Tarngari	15
<b>Total</b>	<b>10 villages</b>	<b>150</b>

From each village, random sampling was employed to select 15 respondents from among those potato farmers owning between one and 2.5 hectares. Each district thus contributed 75 respondents. Gender wise distribution shows that out of 150 respondents, 61 were male and 89 were female.

People are the subject of this study, so approval of the Ethics and Safety Committee was obtained before conducting the study. As the research was gender related, the traditional culture and religious norms of the society were given due consideration. As direct interaction with women farmers might possibly have been considered by the community as socially unacceptable, and as the women might not be comfortable and free when speaking with the (male) researcher, the study results could have been affected by social considerations. To minimise the risk of transgressing social norms and compromising the reliability of the data, women farmers were interviewed with the help of female officers of the Government Agriculture Extension Department. Local language and dress codes were followed to reduce any power gap between the researcher and respondents, another attempt to ensure the collection of reliable data.

The survey was conducted from September 2012 to November 2012. Primary data was collected using a survey questionnaire. The construction of the questionnaire is described in Section 5.7. To obtain relevant secondary data, government offices were also visited during the field work; they also provided support in subsequent stages of the project.

## **5.7 Questionnaire design**

The research questions and objectives given in Chapter 1 of this thesis required the systematic collection of data. The aim of the study is first to establish the participation and contribution of males and females, then to calculate income differentials based on gender, and finally to find and explain links between participation, income and women's empowerment.

The research theme of the thesis was divided in three major areas: A. Participation, B. Income, and C. Empowerment. The questionnaire was hence designed with the intent of gathering maximum information from the respondents in each field of focus and so to avoid any limitations in the analysis stage because of insufficient raw data.

This was a complex procedure, as the restrictions of time, scope and available resources also had to be given due consideration in the questionnaire design.

The questionnaire was designed with particular care so that every essential demographic detail required for data analysis could be collected. Questions regarding age, education, marital status, household size, experience, and land holding; information regarding land fragmentation, crop rotation and cropping patterns; were included. The IFPRI (2012) questionnaire modules for the women's empowerment in agriculture index were also used in this study.

The questionnaire can broadly be subdivided into five main parts:

- Part 1: Questions relating to general demographic information: age, education, farming experience, date of survey, etc.
- Part 2: Information on farm and farm household enterprises, income and decision making.
  - a. Questions relating to farm size, nature of farm fragmentation, cropping patterns, decision-making regarding cropping at farm, etc.
  - b. Questions on livestock production at household level, relevant to farm production and farm household enterprises.
  - c. Questions on any other household business contributing to household earning and decision-making.
- Part 3: Cropping pattern and farm input and resource use.
  - a. Detailed description of cropping patterns with particular emphasis on potato production, including input usage, purchase, labour, farm practices, type, nature and method of irrigation, use of animals and machinery, seasonal and annual potato production.
  - b. Questions on production constraints, including access to credit and financial services.
- Part 4: Basic household information, including size of family, head of family, household income including farm and off-farm income; expenses and goals.
- Part 5: Ownership and control over resources, including agricultural land, livestock, chickens, ducks, turkeys and farm equipment.

## **5.8 Data analysis**

To analyse the quantitative data, the Statistical Package for Social Sciences (SPSS) was used. Descriptive statistics including tabular analysis, frequency distributions, and numerical summaries (mean, mode, median and standard deviations) were utilised to analyse the data where necessary and feasible. T-test was also employed to test hypotheses and confirm significant differences among means for males and females. Similarly, correlation analysis was utilised to examine the relationship between participation and income for genders, while multiple linear regression using Ordinary Least Squares was used to evaluate participation and the impact of income on women's empowerment.

## **Chapter 6**

# **THE STUDY SITE**

### **6.1 Introduction**

This chapter is devoted to a description of the research study site and consists of three main sections after the introduction. Section 6.2 describes the research site, including its constitution, geography. It also includes background of respondents such as respondents' age, farming experience, land holdings, and type of farming. Section 6.3 then discusses some features of respondents' agricultural practices and cropping patterns, while Section 6.4 includes livestock survey results. The Chapter ends with Section 6.5, in which the survey results regarding other business activities in rural livelihood in the Hazara division are presented.

### **6.2 Research site**

The Hazara division is situated in the Khyber Pakhtunkhwa Province of Pakistan. It comprises five districts, Haripur, Abbottabad, Mansehra, Battagram, and Kohistan. In 2011 Mansehra district was divided, and Torghar was officially established as a separate district administrative purposes. Due to its unique cultural, social, and topographic constitution which sets it apart from the rest of the province, the Hazara division is widely regarded in official and non-official contexts as a distinct region (Grunenfelder, 2012). It is located to the east of the river Indus, which separates it from the rest of the province. The majority of the population are Sunni Muslims.

Hazara is an ethnically diverse region. According to the Government of Pakistan (2000), the Hindko-speaking community constitutes the majority of the population, but Pashto-, Gujjari- and Kohistani-speaking communities also have a significant presence (GOP, year 2000, pp. 23–24), and Hazara is considered relatively open and liberal in outlook. Researchers also regard Hazara as a less conservative region with regard to gender issues (Grunenfelder, 2012).

Figure 6.1 below shows the geographic location and constitution of the research area.



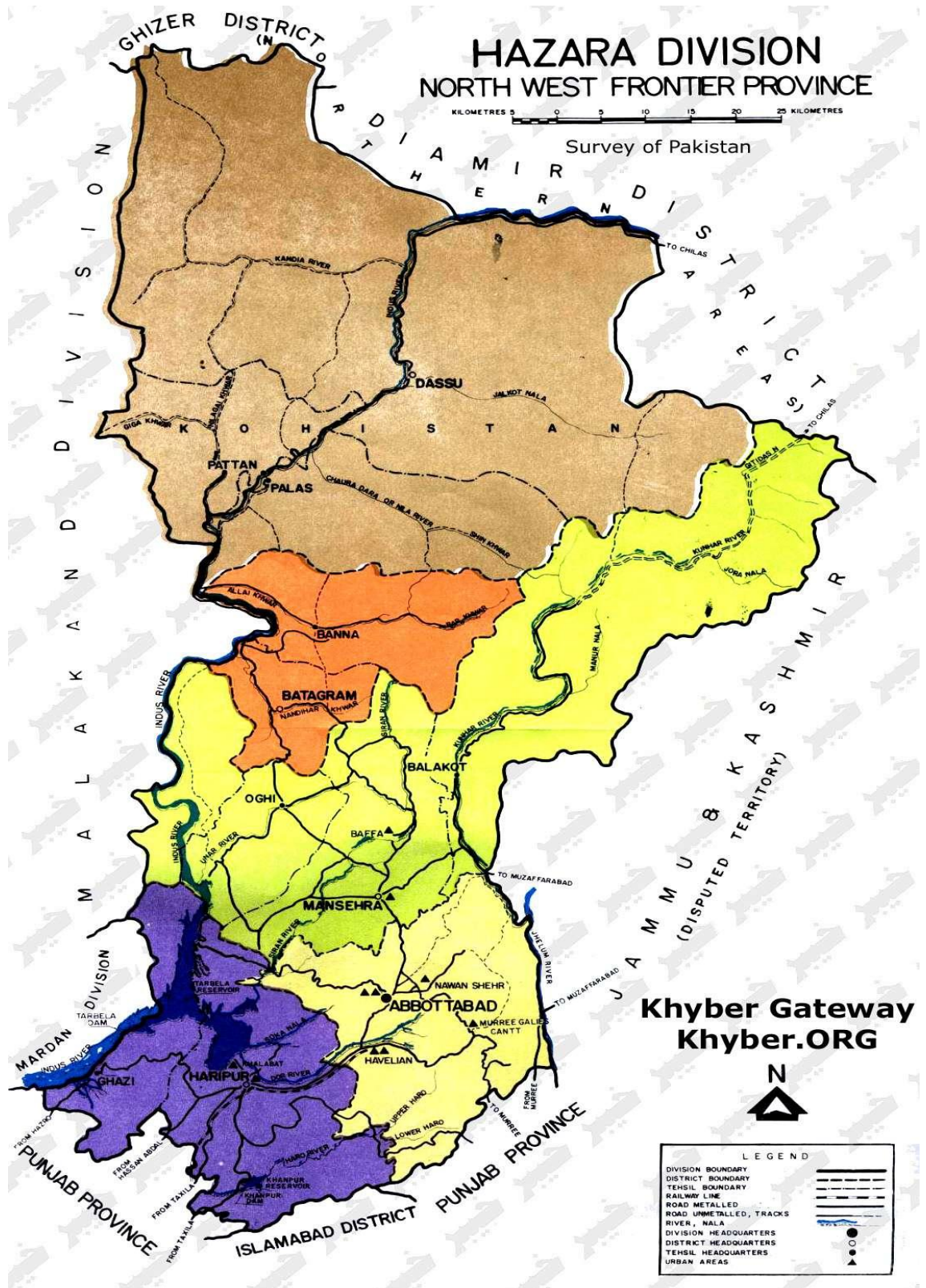


Figure 6.1: Map of Hazara Division, Pakistan

Source: Survey of Pakistan

A statistical description of the area, its population, urban/rural proportions and other relevant details are given in Table 6.1.

**Table 6.1: Area, population, urban & rural proportions, density and sex ratio**

District	Area	Population in		Urban	Rural	Density	Ratio of males per 100 females
		thousands		Proportion	proportion		
	Sq km	1998	2008–09	%	%	Persons/ sq. km	
<b>KPK</b>	74,521	17,736	23,971	16.88	83.12	238	105.0
<b>Hazara</b>	17,064	3506	4311	8.6	91.4	205	103.0
<b>Abbottabad</b>	1967	881	1071	17.93	82.07	448	100.2
<b>Battagram</b>	1301	307	397	0	100.0	236	106.6
<b>Haripur</b>	1725	692	875	11.95	88.05	401	99.7
<b>Kohistan</b>	7492	473	477	0	100.0	63	124.4
<b>Mansehra</b>	4579	1153	1491	5.32	94.68	252	98.4

Source: Government of Pakistan Statistics Department

Adapted from Grunenfelder (2012)

This research survey was conducted in Hazara and focused on the districts of Abbottabad and Mansehra. A total of 150 respondents were interviewed, of whom 89 were females and 61 were males. The breakdown of respondents' age, farming experience, land holding and land fragmentation practices based on gender division are presented in Tables 6.2, 6.3, 6.4 and 6.5 below. Table 6.2 details the age of respondents interviewed in Hazara.

**Table 6.2: Age of respondents**

Gender	No. of respondents	Minimum age	Maximum age	Mean age	S. D.
Male	61	27	71	44.70	8.77
Female	89	25	64	40.65	11.33
Total	150	25	71	42.30	10.05

As shown in Table 6.2, the mean age of respondents is 42.3 years, with a minimum age of 27 and a maximum of 71. On average, males are slightly older (44.7 years)

than females (40.65 years). Table 6.3 and 6.4 will present educational status and household size of the respondents.

**Table 6.3: Education of the respondents**

S. No.	Education level	Male		Female	
		No	Percentage	No	Percentage
1.	Primary or under primary	20	33	61	68
2.	Matriculation and less	29	47	23	26
3.	Graduation and above	12	20	5	6

As shown in Table 6.3, women have less educational status as compared to men. Only 6% of the women graduated tertiary level or above, on the other hand, 68% of women completed primary or have some primary education. The table also clearly shows that men's education level is much higher than women's education level as 20% of the men have graduated tertiary education or have a higher degree and 47% of the male respondents have matriculated.

**Table 6.4: Household size of the respondents**

S. No.	Household size	Male		Female	
		No	Percentage	No	Percentage
1.	5 and less	08	13	09	10
2.	6-10	19	31	31	35
3.	11-15	23	38	34	38
4.	15 and above	11	18	15	17

Table 6.4 represents the household size of the interviewed respondents. About 38% of females belong to households having 11-15 household members, followed by 35% of females who belong to households that have 6-10 household members. Only 10% of female respondents belong to households of 5 or less household members. Table 6.5 elaborates respondents' years of farming experience.

**Table 6.5: Farming experience of respondents**

<b>Gender</b>	<b>No. of Respondents</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>S. D.</b>
Male	61	10	40	18.86	6.48
Female	89	02	30	15.56	7.23
Overall	150	02	40	16.90	7.10

Table 6.5 above gives a clear picture of respondents' experience in agriculture. As shown in the table, the males' farming experience was higher than females', i.e., 18.9 years vs. 15.6 years, respectively. Overall, the average farming experience for respondents was 16.9 years, with a minimum of 2 and a maximum of 40 years. The data analysis showed that in general farming experience has a positive impact on respondent's empowerment status at 90% level of confidence as depicted in model 3, but in the case of women, a positive but insignificant result was observed for the relationship between farming experience and women empowerment.

Table 6.6 outlines the land holding status of the respondents and the land holding patterns.

**Table 6.6: Land holding of respondents**

<b>S. No.</b>	<b>Land holding</b>	<b>Male</b>		<b>Female</b>		<b>Total</b>	
		<b>Number</b>	<b>%</b>	<b>Number</b>	<b>%</b>	<b>Number</b>	<b>%</b>
<b>1</b>	1 to 1.5 ha	24	39	65	73	89	59
<b>2</b>	1.6 to 2.0 ha	36	59	21	24	57	38
<b>3</b>	2.1 to 2.5 ha	01	02	03	03	4	03
	Total average	61		89		150	

As shown in Table 6.6, in general, most of the farmers own between 1-1.5 hectares of land. A significant difference can be observed though: in general more males have the majority of male respondents fall into the second stratum of 1.6-2 hectares, while female respondents are clustered in the first stratum of 1-1.5 hectares. The overall statistics show that 59 per cent of respondents lie in the first group, 38 per cent in the second group, and only three per cent in the third group. To understand current farming trends in the research area, it is important to present collected data on features regarding respondents' responses to total area farmed or partial area

farmed, pertaining to land fragmentation. Table 6.7 presents data regarding land use for crop production.

**Table 6.7: Land use pattern, by gender**

Gender	Planted total		Planted partial		Fragmented		Not fragmented	
	farm area		farm area					
	No.	%	No.	%	No.	%	No.	%
Male	55	90	6	10	43	70	18	30
Female	69	78	20	22	73	82	16	18
Total	124	82	26	18	116	77	34	23

Table 6.7 presents a gender-disaggregated picture of land use and land fragmentation practices. Ninety per cent of male respondents were currently cultivating their full quota of land while only 78 per cent of female respondents were doing so. This shows a considerable difference between male and female respondents. On average, 82 per cent of farmers cultivated their entire farm while 18 per cent cultivated only part of their farm holdings. More female farmers operated fragmented lands than males, with 82 per cent females operating farm holdings compared to 70 per cent of men. Overall, most farmers had fragmented land, with 77 per cent of respondents under this type of farm holding. This is because most farms are small and fragmented; hence farmers often have to operate two or more of the landholdings to meet family requirements.

In terms of crops choice, farmers have a variety of crops in the area. Table 6.8 gives data on the choice of crops by farmers.

**Table 6.8: Major crop choices of respondents**

S. No.	Crop	Gender				Overall Total	
		Male		Female		No.	%
		No.	%	No.	%		
1	Potatoes	36	59	54	61	90	60
2	Wheat	7	11	14	16	21	14
3	Maize	6	10	11	12	17	11
4	Vegetables	12	20	10	11	22	15

This survey primarily focused on potato growers, and a majority of the respondents regarded potatoes as their primary crop, while also favouring wheat, maize and vegetables. Gender-wise details of choice of crop show almost similar results, with emphasis by both genders on potatoes, followed by vegetables, wheat and maize.

### 6.3 Agricultural practices and cropping patterns

One of the most important choices facing farmers purchasing input supplies for potato production is the choice of brand. The names of particular brands were incorporated into the questionnaire to evaluate any difference of choice between males and females in regard to brands available in the market.

Table 6.9 shows the main preferred brands of each input for males and females, to enable comparison.

**Table 6.9: Gendered selections of brands for inputs purchased for potato production**

Type	Male		Female	
	Brand 1	Brand 2	Brand 1	Brand 2
<b>Granular Fertiliser</b>	Sona Urea	Engro urea	Sona Urea	Engro Urea
<b>Complete Fertiliser</b>	Fatima Fertiliser	Engro NPK	Fatima Fertiliser	Engro NPK
<b>Phosphatic Fertiliser</b>	FFC DAP	Engro DAP	FFC DAP	Engro DAP
<b>Potassium Fertiliser</b>	Engro	SOP	Engro	SOP
<b>Herbicide</b>	Target	FMC	Target	FMC
<b>Insecticide</b>	Syngenta	FMC group	Syngenta	FMC group
<b>Fungicide</b>	Syngenta	FMC	Syngenta	FMC
<b>Liquid Fertiliser</b>	Bio Fertiliser	Other	Bio Fertiliser	Other/
<b>Seed</b>	Punjab Seed Corporation	Hazara Agri. research centre	Punjab Seed Corporation	Hazara Agri. research centre
<b>Synthetic sacks</b>	Local	Local	Local	Local

As shown in the table, there seems to be no difference found between male and female respondents. The choices of inputs including fertilisers, herbicides, pesticides, insecticides, fungicides, seed, and liquid fertiliser were found to be the same for the majority of respondents, regardless of gender.

Another important aspect of potato production is the source of irrigation and the method of irrigation. Table 6.10 displays respondents' sources of irrigation and method of irrigation given in both numbers and percentages.

**Table 6.10: Source and method of irrigation for male and female respondents**

Gender	Source of irrigation % Respondents				Methods of application % Respondent			
	Spring	River	Free-flowing	Tube wells	Pumping	Gravity	Hand	Other
<b>Male</b>	17	36	06	41	13	81	01	05
<b>Female</b>	10	29	05	56	11	85	00	04
<b>Average</b>	13	32	06	49	12	83	0.5	4.5

Various sources of irrigation were used by respondents for irrigation purposes. Most respondents (49 %) cited tube wells as the source of irrigation, while 32 per cent utilised river water and 13 per cent used spring water. Gender-wise analysis shows approximately similar trends between genders, with the largest groups of both males and females relying on tube wells, followed by river and spring water.

Gravity flow was the most common method of field irrigation, with little dependence on pumping (13 %); a few respondents also used modern techniques of application, which are denoted in Table 6.10 as 'others'. Similar trends were observed in both genders with regard to method of application.

Financial services are also an important feature of the agricultural production system. Farmers' access to credit and other financial services is always emphasised in governmental agricultural development plans; some government initiatives were mentioned in Section 1.1 of Chapter 1. Table 6.11 represents sources from which credit can be accessed.

**Table 6.11: Source of finance of respondents**

Source	Male		Female	
	No.	%	No.	%
NGO	10	16	10	11
Informal lender	08	13	02	03
Formal lender	22	36	07	15
Friend or relative	12	20	24	27
Group-based lending	07	11	02	02

As shown in Table 6.11, there is a considerable difference between genders in terms of sources of finance utilised by respondents. Male respondents relied more on formal lenders, including banks and other financial institutions, while females depended on NGOs as a source of lending. Females also had a stronger tendency to borrow from friends and relatives than did males.

Various factors were found to be reasons for not availing of financial help from any source - these include accessibility, availability, personal preferences, high interest rates and difficult procedures in obtaining credit. In the case of female farmers, these reasons are also coupled by issues related to women's mobility, permission and lack of women credit officers and lack of assets that can be mortgaged which are major barriers for women from accessing and utilizing financial help.

## 6.4 Livestock

In terms of the number and choice of animals, of the large animals, cattle are the most favoured for both male and female respondents. Local breeds of chicken were most common in the research area. Gender-sensitive analysis of livestock data compiled during the survey is presented in Table 6.12.

**Table 6.12: Livestock production activities by respondents**

Animal	Male				Female			
	No.	%	Mean	SD	No.	%	Mean	SD
Cattle	46	75	4.41	1.93	64	72	3.07	1.69
Goats/sheep	29	47	2.24	0.950	59	66	3.03	1.18
Poultry	43	70	4.65	2.35	72	81	5.77	3.05



It is evident from the table that cattle were raised by both genders, but male respondents had a slightly higher tendency to raise cattle (75 %); 72 per cent of women were involved in cattle farming. The mean value for males is 4.41, compared with 3.07 for females, showing that males have a higher number of cattle per farmer. In the case of goats, females have a higher percentage value, 66 per cent as compared to 47 per cent for males. Similarly, the mean number of goats per farmer is higher in the case of females: 3.03 as compared to males at 2.24. Females are also more actively involved in chicken production than males, with 81 per cent of female respondents raising chickens but only 70 per cent of males. The mean value for women is 5.77 and for men is 4.65, implying women care for a higher number of poultry per head than men.

## 6.5 Entrepreneurship

Another important aspect of farm household covered in this survey considered non-farm economic activities contributing to rural livelihoods. This aspect gives a more solid base to study and assess the degree of women's empowerment. The survey results are given in the Table 6.13 given below.

**Table 6.13: Non-farm activity/ business by respondents**

Name of activity/ business	Male		Female	
	No.	%	No.	%
<b>Mining and quarrying</b>	0	0	0	0
<b>Manufacturing</b>	2	3	1	11
<b>Electricity, gas water supply</b>	2	3	0	0
<b>Construction</b>	6	10	0	0
<b>Wholesale and retail trade</b>	2	3	2	2
<b>Personal and household</b>	8	13	14	16
<b>Real estate and renting</b>	0	0	1	1
<b>Education</b>	10	17	4	5
<b>Community and personal</b>	8	13	9	10
<b>Household</b>	0	0	2	2
<b>No other activity</b>	23	38	56	63

As can be seen in the table, of the total 150 respondents, 79 (53 %) had no other business activity and were dependent on agricultural and livestock activities alone for household earnings. The other 71 respondents (47 %) did have another business activity. Personal and household goods were dominant, followed by community and personal, education, construction, and wholesale and retail trade; all these were significant sectors. In terms of gender-wise distribution of activities, Table 6.13, shows that males were more engaged in non-farm business activities: 62 per cent of males were involved in other business activities, while only 37 per cent of females were involved in other business activities.

## **6.6 Conclusion**

This chapter provides information on the study site and the background of respondents, including their participation in farm and non-farm activities. In general, it could be observed from respondents basic characteristics as shown in Table 6.2 to 6.13 that female respondents have lesser education, lesser land holdings, lesser access to financial resources and lesser participation in entrepreneurial activities which manifest their relative disadvantage in comparison to male respondents. Even though the female contribution is numerically significant, males are dominant in almost all activities. The factors responsible for lesser female contribution in comparison with males are elaborated on in Chapter 3. Differences in participation levels for each gender in various activities makes it necessary to measure in quantifiable terms the extent of participation for both male and females; these results are provided in Chapter 7.

# **Chapter 7**

## **PARTICIPATION OF MEN AND WOMEN IN POTATO PRODUCTION**

### **7.1 Introduction**

In Hazara, potatoes can be planted in two seasons, autumn and spring, providing two crops per year. This chapter focuses on the participation level of each gender in various activities relating to potato production, and is divided into eight sections. Following this introduction, Section 7.2 discusses gendered participation in input purchases related to potato production. Section 7.3 outlines gender participation in physical activities in potato production while Section 7.4 presents data on gender participation in relation to livestock production. Section 7.5 describes gender participation in other business activities; Section 7.6 enlists various sources of income and income differentials for both genders and Section 7.7 describes the household goals for male and female respondents. Finally, Section 7.8 concludes the chapter.

### **7.2 Participation in input purchase**

Data regarding participation in input purchase was collected by gathering information on the number of men and women involved in the purchase of agricultural inputs and the amount they spent for the purchase of various items to be used in potato production, such as fertiliser, herbicide, insecticide, pesticide, fungicide, seed, water, and synthetic sacks.

As potatoes are grown in two seasons in Hazara it was necessary to collect data regarding gender participation in both seasons for evaluation and analysis. The seasonal data was then aggregated to provide results for the yearly amount spent on the purchase of various inputs per hectare to be used in potato production; these yearly results are provided in Table 7.1.

**Table 7.1: Participation and yearly amounts spent by male and female in input purchase per hectare**

Name of Input	Male			Female		
	No.	%	Mean value (PKR)	No.	%	Mean value (PKR)
<b>Granular fertiliser **</b>	29	47	4318	20	22	1642
<b>Complete fertiliser **</b>	35	58	5242	24	27	3616
<b>Phosphate fertiliser **</b>	25	41	6300	17	19	2450
<b>Potash</b>	17	28	4551	14	16	3712
<b>Liquid fertiliser*</b>	14	23	2497	12	14	1729
<b>Manure</b>	34	56	9578	41	46	8613
<b>Herbicide **</b>	43	70	2595	22	25	1560
<b>Insecticide **</b>	39	64	2133	19	21	1379
<b>Fungicide **</b>	43	70	2374	18	20	1884
<b>Seed **</b>	43	71	8750	27	31	3500
<b>Water **</b>	37	61	1400	15	17	1250
<b>Synthetic sacks</b>	34	55	2878	34	38	2730

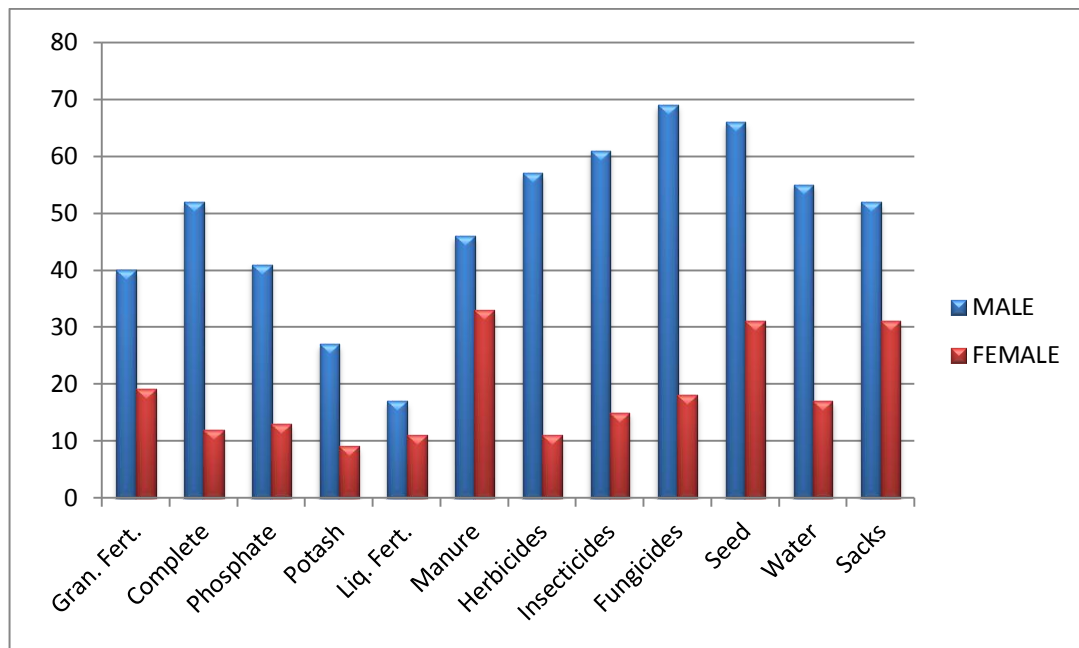
\* \*\*Significant at 5% level; \* Significant at 10% level

To compare the data, a t-test was conducted to ascertain whether there were any significant differences between the amounts men and women spent on purchase of inputs. The t-test results showed that a significant difference exists in amounts spent by each gender in all cases except potash fertiliser, synthetic sacks and manure. On average, men spent PKR 4318 on granular fertiliser, while women only spent PKR 1642. Similarly, men spent a higher amount on complete fertiliser and phosphate fertilisers at PKR 5242 and PKR 6300, respectively; while women spent only PKR 3616 and PKR 2450, respectively. Other farm inputs where the difference between men and women purchases are highly significant are herbicide, insecticide, fungicide, seed and water, where men spent more than women, in all cases.

Meanwhile, men also spent more on potash, sacks and manure compared to women; however, the differences are not statistically significant at both the 5% and 1% level. It is worthy to note that manure comes mainly from the livestock raised by the household, and as women generally undertake cleaning activities, they are the ones

who raise manure dumps, which then are considered their property. In general, though, the analysis shows that males spend more on purchases of all farm inputs.

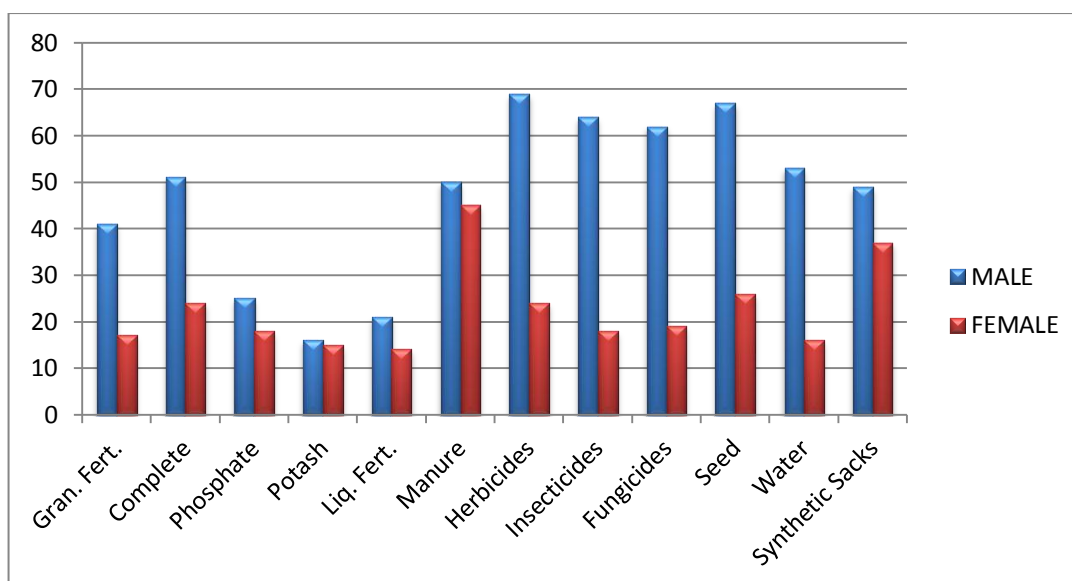
In terms of the number and percentage of males and females, who are actually involved in buying the inputs, Figure 7.1 depicts the results for the first season's potato crop, represented in percentages.



**Figure 7.1: Male and female participation in input purchases (first season)**

It can be observed that during the first season, female contribution is concentrated on manure seed and synthetic sacks, and is lowest in purchases of potash, herbicide and liquid fertiliser. A total of 69%, 66% and 61% males were involved in the purchase of fungicides, seed and insecticides, respectively, while only 18%, 31% and 15% females bought these inputs in the first season. However, females had greater participation in manure, seed and synthetic sacks purchase, with 33%, 31% and 31% of females, respectively were involved in purchasing these inputs. However, the lowest women participation was recorded in potash (9%), herbicides (11%) and liquid fertilizer (11%) in the first season.

Fig 7.2 presents the proportions of male and female respondents purchasing inputs for potato production in the second season.



**Figure 7.2: Male and female participation in input purchases (second season)**

Although men’s purchases of inputs for potato production are considerably higher, the female contribution is well distributed and also considerable. This figure shows almost the same trend with regard to inputs purchase in Figure 7.1, but there are some minor changes; in the second season, the lowest purchases by women were liquid fertiliser, potash and water. Using Liquid fertilizer and potash in potato production is an emerging concept introduced by Government agricultural extension agencies, and due to women’s limited access to these services, their awareness about its usage is limited.

The analysis and comparison of both figures clearly show that female participation in input purchase, in terms of number and percentages, is slightly higher in the second season compared to the first season, particularly in the purchase of manure, synthetic sacks, and seed, while their contribution is lowest in purchases of liquid fertiliser, water, and potash. Limited access to extension services is resulting in women’s lower contribution in purchase of potash and liquid fertilizer.

Overall, though, women’s purchases of farm inputs are lower than men. This is due to their lower percentage involvement in buying inputs as well as their low financial strength. Women’s participation can be enhanced by providing them with credit services for purchasing agricultural inputs. The FAO has consistently reported that women have limited access to short-term credit, required for buying seeds, insecticides, fertiliser and other agricultural inputs, and to long-term credits for

buying land and mechanical equipment for agricultural activities; it stresses the need to enhance women's access to credit or other financial services (FAO, 1990, 2003).

Another problem associated with lower participation in input purchase is associated with low mobility and inadequate access to the agricultural inputs market (FAO, 2003). Limitations associated with females' decision-making power also affect their purchasing ability, while their limited technical knowledge regarding the use of fertilisers and other supplies for potato production also inhibit their participation. Despite these constraints, women make a considerable contribution in each type of input purchases.

To further illustrate the nature of participation regarding inputs, data was disaggregated into owned, purchased and borrowed inputs; this helped determine gender roles in inputs purchase on a more basic level. Table 7.2 presents gender disaggregated data regarding first season input purchases, while Table 7.3 shows the same information for the second season.

**Table 7.2: Average amount spent by men and women for input purchase in the first cropping season**

Input	Average amount spent by men						Average amount spent by women					
	Owned		Purchased		Borrowed		Owned		Purchased		Borrowed	
	%	Mean	%	Mean	%	Mean	%	Mean	%	Mean	%	Mean
		(PKR)		(PKR)		(PKR)		(PKR)		(PKR)		(PKR)
<b>Granular fertiliser</b>	0	0	28	3394	21	2869	0	0	11	870	10	1144
<b>Complete</b>	0	0	41	5372	25	3560	0	0	7	1528	6	2683
<b>Phosphate</b>	0	0	25	5400	20	4300	0	0	8	3500	7	3137
<b>Potash</b>	0	0	10	2083	20	1683	0	0	6	3100	5	1900
<b>Liquid fertiliser</b>	0	0	12	1185	7	1025	0	0	9	1825	5	1600
<b>Manure</b>	33	10550	15	3333	3	5000	27	9979	6	4116	4	4500
<b>Herbicides</b>	0	0	44	1192	23	1300	0	0	6	666	7	1357
<b>Insecticide</b>	0	0	46	1471	25	1047	0	0	9	1150	11	1000
<b>Fungicide</b>	0	0	56	1730	33	1907	0	0	8	1016	18	1518
<b>Seed</b>	30	8750	33	6636	22	5440	22	5654	12	4972	9	5342
<b>Water</b>	35	2557	25	2333	1	1200	11	3240	10	1862	0	0
<b>Synthetic sacks</b>	7	0775	33	1480	28	888	4	425	18	1681	14	792



**Table 7.3: Average amount spent by men and women in input purchase during the second cropping season**

Name of input	Average amount spent by men						Average amount spent by women					
	Owned		Purchased		Borrowed		Owned		Purchased		Borrowed	
	%	Mean	%	Mean	%	Mean	%	Mean	%	Mean	%	Mean
		(PKR)		(PKR)		(PKR)		(PKR)		(PKR)		(PKR)
<b>Granular fertiliser</b>	0	0	33	2316	18	2490	0	0	11	1742	15	1878
<b>Complete</b>	0	0	38	2552	28	2158	0	0	15	3708	18	3443
<b>Phosphate</b>	0	0	21	2710	12	3570	0	0	15	4927	12	4927
<b>Potash</b>	0	0	13	2060	8	1940	0	0	14	2576	10	2042
<b>Liquid fertiliser</b>	0	0	20	1263	9	1125	0	0	13	1766	9	2015
<b>Manure</b>	39	3391	18	9872	2	3000	38	5332	13	2100	5	5620
<b>Herbicides</b>	0	0	44	1470	34	1095	0	0	11	1244	21	1168
<b>Insecticide</b>	0	0	49	1323	46	978	0	0	10	1322	23	2231
<b>Fungicide</b>	0	0	41	1176	31	984	0	0	14	1100	17	940
<b>Seed</b>	37	7645	29	8765	19	5320	18	7634	11	8742	13	5473
<b>Water</b>	43	1646	26	1600	0	0	10	2688	12	2325	0	0
<b>Synthetic sacks</b>	10	0540	25	956	25	873	6	1433	15	0988	16	846

Data given in Tables 7.2 and 7.3 show the input activities for both male and female respondents. During the first cropping season, 33% of males purchased seed at a mean value of PKR 6636, followed by phosphate and complete fertilizer, with 25% and 41% , respectively, of males purchasing these inputs on an average of PKR 5400 and PKR 5372, respectively. On the other hand, 12 % of females purchased seed at an average of 4972 PKR, followed by manure (PKR 4116) and complete fertilizer (PKR 3500). Females lowest purchase was recorded for herbicides (PKR 666) and granular fertilizer (PKR 870).

Approximately similar results were recorded for the second cropping season, with 18% and 29% of males purchased manure and seed, respectively, on an average of PKR 9872 and PKR 8765, respectively. Meanwhile, 11% of women spent PKR 8742 and 15% of women spent PKR 4927, for the purchase of seed and phosphate, respectively.

### **7.3 Participation in field activities**

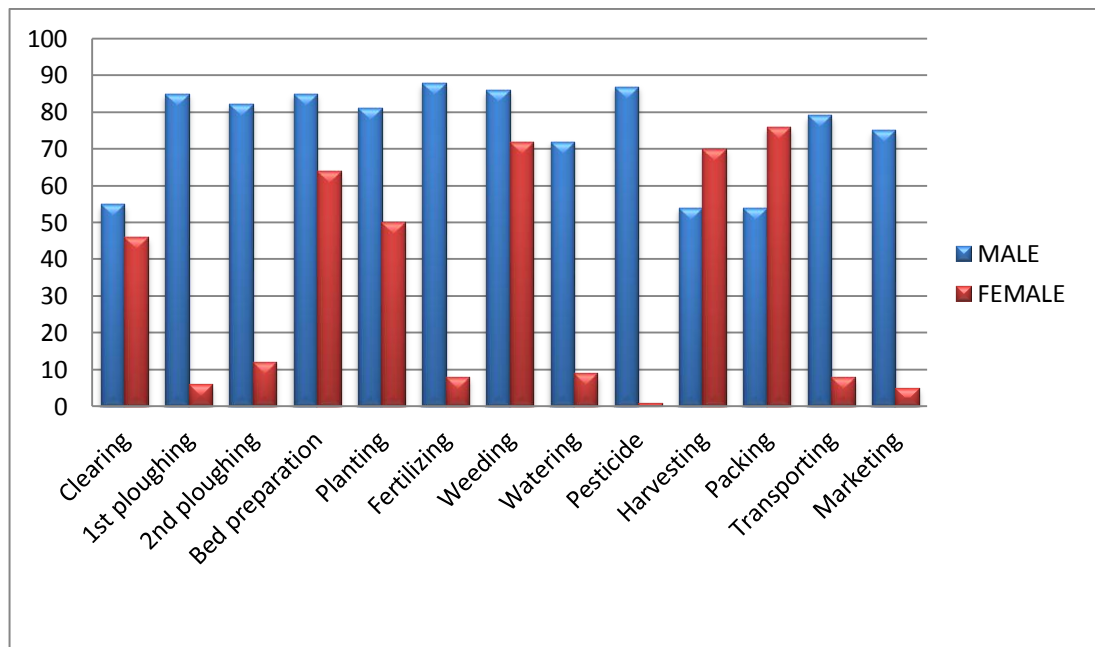
In Hazara, potatoes are normally planted in two seasons and in various rotation patterns. Different field operations generally undertaken by respondents during crop production, and specifically during potato production, are addressed here.

Cropping operations start with land clearing, followed by ploughing. Seed bed preparation is done most of the time with the help of a tractor with a ridger; but it is also done manually. Planting is mostly done by hand specifically in constructing ridges. Fertiliser application is an important part of potato production, with fertiliser mostly applied by broadcasting.

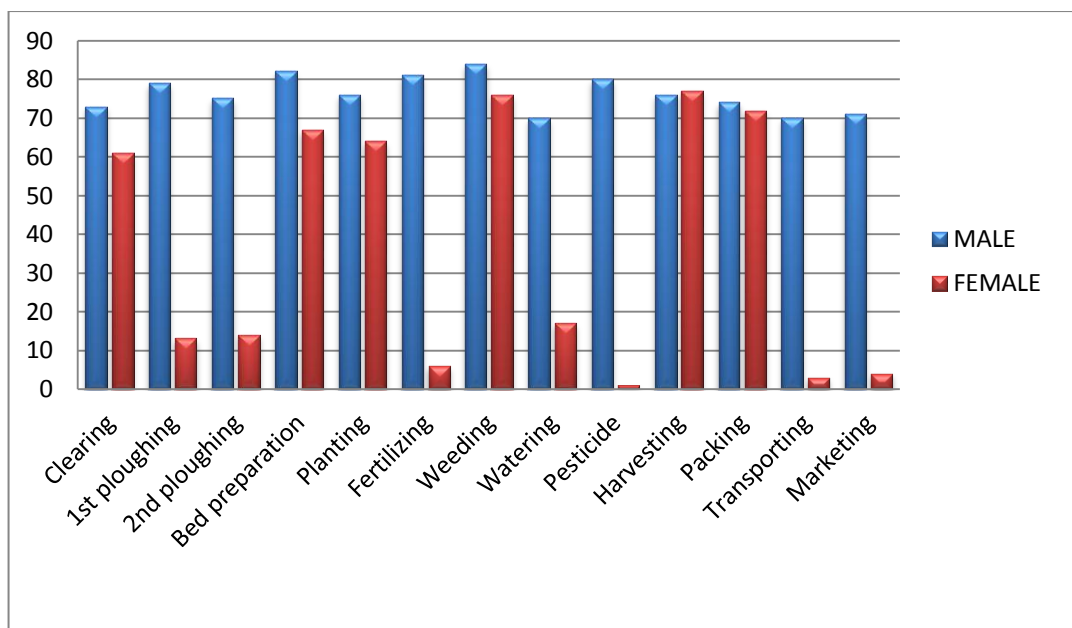
As the potato is a tuber crop, it requires unique hoeing arrangements, and this is done manually. Farmers in the region are now showing interest in adopting new methods of irrigation, but flood irrigation was still used by potato farmers in the research area during the time of the survey. Insecticide, fungicide and pesticide are applied with manual spray pumps; if a large area is under cropping then a tractor-based spray method is used, but this is very rare. Loose packing is done in the field, and afterwards, depending on farmers' arrangements, is modified into more refined forms, where the potato harvest is packed according to suit market requirements.

Transportation depends on the scale and nature of the crop, and ranges from using animals for small shipments to using tractor trollies for bulk transportation. Although most of the farmers supply the local market, some progressive farmers deliver produce to other places as well.

In order to evaluate participation level based on gender subdivision, these field operations were included in the survey questionnaire and quantitative data were collected to ascertain male and female participation in different field activities. Figure 7.3 presents male and female participation in field activities during the first cropping season, while Figure 7.4 presents data regarding male and female participation in potato production during the second cropping season.



**Figure 7.3: Gendered participation in potato production (first cropping season)**



**Figure 7.4: Gendered participation in potato production (second cropping season)**

A comparative analysis of both figures indicates that in some field activities male respondents had high percentage of involvement while female participation was much lower. This signifies that there are some farming activities which can be regarded as male-dominated and female-dominated. There are also a few activities where the percentage of female participation is more than or equal to that of men.

Figure 7.3 depicts female and male participation levels in each cropping activity. The highest female contribution is recorded in packing, at 76 per cent, followed by weeding at 72 per cent, harvesting 70 per cent, bed preparation 64 per cent, and planting at 50 per cent. These findings are in accordance with those of Asghar (1994), Saini *et al.* (2001), Javed *et al.* (2006), Luqman *et al.* (2006), Amin *et al.* (2009), and Ogato *et al.* (2009). Women contribute the least in pesticide application, marketing, and ploughing. Ploughing is mostly done by tractors, and females do not know tractor driving, hence women have least contribution in ploughing activity. Cultural and social limitations restrict women from doing pesticide application and marketing activities. These findings are similar to that by FAO (1995b), IFAD (1999), Mollel and Mtenga (2000), and Amin *et al.* (2009).

Figure 7.4, which contains data regarding female participation in the second season potato crop, is consistent with the results of the previous figures with some minor

changes. This time, the highest contributions of women were in harvesting (77%), weeding (76%), packing (72%), bed preparation (67%), and planting (64%). Minimum participation was recorded as previously, in pesticide application (1%), followed by transportation (3%), and marketing (four %).

Comparison of men and women participation shows that clearing activities are higher in the second season for both males and females, depending on the nature of the activity, but was mostly concentrated in those activities which have already been identified as those with the greatest female participation. This signifies that the female contribution in physical activities during the second season is even more noticeable and higher than in the first season.

In order to establish a solid platform for evaluation of data, it is useful to narrow the scope of collected data and examine each activity in more detail. To achieve this objective, each activity was analysed for participation in terms of work performed by family members and hired hands, or through exchange labour. Each activity is discussed individually in the next section, after Tables 7.4 and 7.5.

**Table 7.4: Participation of men and women in field activities during first cropping season**

Activity	Family Labour				Hired Labour				Exchanged Labour			
	Male		Female		Male		Female		Male		Female	
	%	Hours	%	Hours	%	Hours	%	Hours	%	Hours	%	Hours
<b>Clearing</b>	46	6.96	45	4.65	9	10	0	0	9	4.66	2	3.11
<b>1<sup>st</sup> ploughing</b>	70	3.00	6	1.80	57	2.05	0	0	10	1.83	0	0
<b>2<sup>nd</sup> ploughing</b>	61	2.00	11	1.40	56	2.05	2	1.50	11	2.14	0	0
<b>Bed preparation</b>	59	10.91	64	4.29	61	6.1	1	3.00	13	3.95	5	3.21
<b>Planting</b>	57	6.31	47	5.04	54	7.06	3	4.60	18	3.45	7	3.00
<b>Fertilising</b>	53	6.93	5	3.50	43	7.46	0	0	33	5.75	4	3.66
<b>Weeding</b>	67	16.97	52	10.86	65	17.10	37	9.50	26	7.62	2	4.00
<b>Watering</b>	69	12.78	6	4.60	8	4.60	3	2.00	15	3.66	1	2.00
<b>Pesticide application</b>	68	8.11	1	2.00	40	9.14	0	0	12	6.42	0	0
<b>Harvesting</b>	72	16.34	51	11.13	44	10.64	13	8.44	22	8.92	11	3.78
<b>Packing</b>	41	8.57	54	10.31	21	7.47	12	3.72	8	4.40	16	5.39
<b>Transporting</b>	74	11.51	8	3.00	41	4.96	0	0	16	4.50	0	0
<b>Marketing</b>	72	8.27	4	5.16	18	6.45	0	0	16	4.80	5	5.50

**Table 7.5: Participation of men and women in field activities during second cropping season**

Activity	Avg. Family Labour				Avg. Hired Labour				Avg. Exchanged Labour			
	Male		Female		Male		Female		Male		Female	
	%	Hours	%	Hours	%	Hours	%	Hours	%	Hours	%	Hours
<b>Clearing</b>	61	7.02	61	8.11	14	4.00	0	0	5	5.00	2	3.11
<b>1<sup>st</sup> ploughing</b>	54	4.78	13	3.83	61	4.72	0	0	8	4.21	0	0
<b>2<sup>nd</sup> ploughing</b>	47	5.17	14	3.40	49	4.66	0	0	10	3.00	0	0
<b>Bed preparation</b>	61	13.72	64	10.33	59	10.95	1	3.00	8	5.68	5	2.25
<b>Planting</b>	61	11.86	61	6.12	44	9.21	7	5.16	11	4.85	1	3.00
<b>Fertilising</b>	64	12.3	6	3.33	62	11.71	0	0	10	4.07	0	0
<b>Weeding</b>	62	20.59	67	15.93	54	26.16	17	9.50	6	6.18	6	6.20
<b>Watering</b>	66	26.1	15	5.00	4	16.87	9	5.00	14	4.76	1	2.00
<b>Pesticide application</b>	61	19.27	1	2.00	18	3.54	0	0	13	3.25	0	0
<b>Harvesting</b>	63	15.97	70	17.01	25	11.00	12	3.72	13	5.78	12	4.56
<b>Packing</b>	51	9.00	70	13.79	42	8.15	13	5.26	6	3.50	6	5.65
<b>Transporting</b>	53	11.73	3	4.00	31	6.63	0	0	10	4.83	0	0
<b>Marketing</b>	62	8.02	4	3.90	7	4.00	0	0	15	4.33	0	0

### 7.3.1 Land preparation

Data collected during the survey reveals that physical activities such as land clearing were evenly performed by both genders. Family labour over dominated both hired and exchange labour in clearing land. Forty-six per cent of male respondents participated in this activity and worked for an average of 6.96 hours during the first season, compared with 45 per cent of females who averaged 4.65 hours in the field in activities connected with clearing. Nine per cent of the male respondents used hired male labour for land clearing; no incident of women being hired was recorded. Men also participated more in exchange labour; nine per cent of male respondents exchanged labour and spent an average of 4.66 hours in the field, but only two per cent of female respondents exchanged labour, and they spent only 3.11 hours performing land clearing activities. Similar figures were found for the second season, except that family participation and time, of both males and females, increased, family participation increased to 61% from 46 while their working hours increased from 6.96 hours to 7.02 hours, similarly females' family participation increased from 45 % to 61 with an increase of 3.46 hours in the second season. Land clearing is mostly done manually and requires less skill, hence women has greater participation in land clearing activity.

Ploughing proved to be a male-dominated activity, with 70 per cent of family male labour used for ploughing as compared to only 6 per cent of female labour. The average time in the field for males was three hours, against 1.8 hours for women. Hired labour constituted a major part of ploughing work, and 57 per cent of male hired workers were involved in ploughing with an average of 2.05 hours. No females were recorded as having been involved in field ploughing. Males showed some tendency to exchange labour, with 10 per cent participating for an average of 1.83 hours; there was no similar contribution by females. The same case was observed in the case of the second ploughing, with a light decrease in male work from 70 per cent to 61 per cent. However, family labour increased slightly, with females' share of work related to ploughing rising from 6 to 11 per cent, and for an average of 1.4 hours. Hired male labour also made a significant contribution, with 56 per cent of male respondents using hired male labourers; only two per cent of women used hired hands for ploughing. This depicts an equal contribution by



females to land clearing activities, but a much lower contribution to ploughing. Cultural and social restrictions on the women's mobility and lack of training of tractor driving skills are the main reason behind women's lowest participation in ploughing, whereas less skill in manual land clearing allows most of the women to participate in land clearing activities. Similar data patterns were observed for the second season.

### **7.3.2 Bed preparation**

Females dominated in terms of bed preparation, with recorded figures of 64 per cent as against 59 per cent for males. For the second season crop, females again dominated, but males recorded higher numbers of hired and exchange labour, at 61 per cent and 13 per cent, respectively. Only one per cent of females hired labour, and only five per cent exchanged labour for bed preparation.

### **7.3.3 Planting**

In the broader spectrum, male participation in planting activities stood higher, at 57 and 61 per cent for first and second season crops, while female contribution was also high at 47 and 61 per cent, respectively, as shown in Tables 7.4 and 7.5. Although the data in Table 7.5 suggests equal participation by male and female respondents to family labour, again the values for males hiring and exchanging labour are much higher than for females.

### **7.3.4 Fertilising**

Fertilising is a male-dominated activity for both seasons, with very small figures recorded for female participation. Further analysis of the data in Table 7.4 reveals that family male labour dominates over hired and exchanged labour; suggesting men prefer to apply fertiliser to their own lands. Females made some contribution in exchange labour for fertilising, with four per cent of female respondents using 3.66 hours on average per season. Males still had a much stronger tendency to exchange labour for fertilising, with 33 per cent of respondents participating for an average of 5.75 hours per hour.

### **7.3.5 Weeding and hoeing**

Potato crops require substantially high labour for weeding and hoeing, and this is reflected in the collected data as garnering the highest average hours and greatest participation by both genders. In general, 67 per cent of males and 52 per cent of females spent an average of 16.97 and 20.59 hours, respectively, in these activities during the first cropping season, while 62 per cent of males and 67 per cent of females participated in these activities for 10.86 and 15.93 hours, respectively, during the second season. Hired labour also showed dominant proportions spent in weeding, with figures of 65 per cent males and 37 per cent females during the first season with an average of 17.1 and 9.5 hours, respectively, and 54 and 17 per cent, respectively, during the second season. A significant contribution by male exchange labour is also recorded, but again, there is only minor exchange labour among females.

### **7.3.6 Watering**

Watering is predominantly a male activity, with 69 per cent involvement by male family labour and a high hour gender differential value of 12.78 hours for males as against 4.6 hours for females. Only six per cent of female respondents participated in family labour. A higher contribution of exchange labour for watering activities was recorded, compared with hired labour: figures were 15 and one per cent for exchanged labour and eight and three per cent, respectively, for males and females. A similar pattern was observed for the second cropping season.

### **7.3.7 Pesticide Application**

Pesticide application proved to be an exclusively male activity with figures of 68 and 61 per cent for males during the first and second season, respectively; a very small figure of only one per cent was recorded for female respondents in both seasons. Males had a higher tendency to opt for family labour to apply pesticides, rather than hiring labour. About 12 and 13 per cent were recorded for male exchange labour during the first and second seasons, respectively. No female participation was recorded for either for the first and second seasons.

### **7.3.8 Harvesting**

The highest trend of participation was recorded for harvesting, engaging 72 per cent and 63 per cent of males, respectively, in each season and 51 per cent and 70 per cent of females, respectively, as shown in Tables 7.4 and 7.5. In the case of hired labour, males had a higher participation of 44 per cent over the 13 per cent for females; but interestingly, females were involved in higher exchange activities in harvesting. Similar patterns were observed in the second season, with males dominating in hired and exchanged labour compared with family labour.

### **7.3.9 Packing**

Female respondents showed a markedly higher percentage involvement in packing in potatoes, involving 54 and 70 per cent of respondents higher than males for both first and second season. Data presented in Tables 7.4 and 7.5 suggest that females also made a lesser but still significant contribution in hired labour for packing.

### **7.3.10 Transporting**

Female participation in transportation activities is one of the lowest of all the activities, and therefore transportation can be considered a male-dominated area of production. As lack of driving skills and restricted mobility to the storage places is causing restrictions for women's contribution to transportation activity. Comparison of data in Tables 7.4 and 7.5 suggests that even though males engage hired labour for transportation, the family contribution remains considerably high. Some male exchange labour was also recorded, as shown in the tables.

### **7.3.11 Marketing**

Females make some contribution to marketing, but again male dominance is clearly visible in the data presented in Tables 7.4 and 7.5. Unsurprisingly, males also show significant figures in family labour as compared to hired labour in marketing. Interestingly, some figures were also observed for male and female exchange labour, although at smaller percentages.

## 7.4 Livestock production

Results for male and female participation in livestock production and related activities are presented in Tables 7.6 and 7.7.

**Table 7.6: Male participation in livestock production**

Livestock	Active respondents		Ownership		Physical participation		Selling		Purchasing	
	No.	%	No.	%	No.	%	No.	%	No.	%
	<b>Cattle</b>	46	75	25	54	28	60	8	17	7
<b>Sheep &amp; goats</b>	29	47	4	14	12	41	7	24	5	17
<b>Poultry</b>	43	70	8	18	7	16	9	21	4	9
<b>Average total</b>	39	64	12	31	6	15	8	21	5	13

**Table 7.7: Female participation in livestock production**

Livestock	Active respondents		Ownership		Participation		Selling		Purchasing	
	No.	%	No.	%	No.	%	No.	%	No.	%
	<b>Cattle</b>	64	71	15	23	41	64	1	1	3
<b>Sheep &amp; goats</b>	59	66	40	68	42	71	16	27	12	20
<b>Poultry</b>	72	81	44	61	49	68	42	58	25	35
<b>Average total</b>	65	73	33	37	37	42	20	22	13	15

Data collected during the survey on female participation in livestock activities shows that cattle, sheep and goats are the favoured large animals; but a large number of rural households are also involved in poultry raising; their poultry are mostly inbred local breeds. As shown in Tables 7.6 and 7.7, males own more cattle than females, and generally make the decisions about selling and buying cattle; but females make a greater contribution in terms of physical labour, with 64 per cent females involved in the care of cattle against 60 per cent for males. In the case of goats, females have higher ownership, and have a significant voice in deciding to sell or buy new stock

(Okali & Sumberg, 1985). Meanwhile, poultry raising is evidently a female domain, with a high number of female respondents involved, and high values for ownership and decision-making regarding purchase or sale of poultry also evident (FAO, 2003 and FAO, 1995b).

## 7.5 Participation in other business activities

In order to assess female participation in different spheres of household life and their contribution to other business activities, data on these matters were also collected. The results are summarised in Table 7.8.

**Table 7.8: Male and female contributions to other business activities**

<b>Gender</b>	<b>Total no.</b>	<b>Percentage</b>	<b>Ownership (%)</b>	<b>Participation (%)</b>	<b>Starting decision (%)</b>
<b>Male</b>	38	55	64	81	41
<b>Female</b>	33	37	28	43	15
<b>Average total</b>	71	47	46	63	30

Seventy-one respondents are involved in other business activities. Of these, 38 are males while 33 are females. 55% males and only 37% females were involved in other business activities. The ownership and participation percentages for males are also higher than for females, and female participation levels are much higher than ownership of second businesses and starting decision for business activity, as women's participation is 43% in other business activities, while their ownership of such business is only 28% and only 15% women have decided to start other businesses.

## 7.6 Income levels

Data results regarding source of income, male and female yearly income and those months where they receive a relatively higher income are presented in Tables 7.9 and 7.10, respectively.

**Table 7.9: Sources of income for women**

Source of income	Average per year(PKR)	Months relatively higher			
Vegetable/potato production	69 600	Mar	April	Sep	Oct
Livestock raising	62 000	Oct	Nov.	March	Apr
Fruit trees	11 500	Jun	Jul	Nov	Dec
Poultry raising	32 700	Jan	Feb	March	Apr
Services	33 800	Apr	May	Sep	Oct
Rental(land, house, room, agricultural equipment)	28 300	May	Jun	Sep	Oct
Remittances from abroad	38 400	Aug	Sep	Oct	Nov
Total income	87 600				

**Table 7.10: Sources of income for men**

Source of income	Average per year(PKR)	Months relatively higher			
Vegetable/potato production	210 000	March	April	Sep	Oct
Livestock raising	121 000	Jun	Jul	Nov	Dec
Fruit trees	45 900	Jan.	Feb	Mar	Apr
Poultry raising	12 000	Apr	May	Sep	Oct
Services	78 000	May	Jun	Sep	Oct
Rental(land, house, room, agricultural equipment)	53 000	Aug	Sep	Oct	Nov
Remittances from abroad	18 750	Jan	Jun	Sep	Oct
Total income	254 400				

A comparative analysis of both tables reveals that males receive a much higher income than females, except in the cases of poultry raising and remittances from abroad. The main source of income for women is vegetable/potato production as on average, women earn 69,600PKRs from this source in the months of March, April,

September and October, primarily because income cash flow from vegetable and production is higher in these months, followed by livestock raising, which provides 62,000PKRs to women in the months of October, November, March and April as income cash flow increases in these months due to the higher sale of livestock.

On the other hand, men's main source of income were just as that of women however, their income gradient was drastically high, as men earn on average 210,000PKRs from vegetable/potato production in the months of March, April and September, October and 121,000 from livestock raising in the months of June, July November and December.

## **7.7 Household goals**

Questions related to household goals were also included in the questionnaire, and data were recorded during the survey on male and female respondents' views on household goals. Respondents were asked to answer from a scale of 1 to 7, with 1 = not important to 7 = important. A comparative table of results is given below. For the sake of simplicity and to provide data in a tabular form the seven scale responses for the household goals are categorized in three major categories, with the rating of 1 to 3 representing not important; 4 representing neutral response and the rating of 5 to 7 representing important.

**Table 7.11: Household goals for women and men**

Goals	Male						Female					
	Important		Neutral		Not important		Important		Neutral		Not important	
	No	%	No	%	No	%	No	%	No	%	No	%
<b>Household needs</b>	25	41	20	33	16	26	63	71	22	24	4	5
<b>Savings</b>	18	30	26	42	17	28	52	59	26	29	11	12
<b>Education</b>	25	41	19	31	17	28	29	33	44	49	16	18
<b>Health</b>	36	58	15	25	10	17	47	53	40	45	2	02
<b>Social status</b>	40	66	17	28	4	6	27	30	36	41	26	29
<b>Cash income</b>	37	60	15	25	9	15	28	32	44	49	17	19
<b>Environment</b>	9	15	34	55	18	30	6	7	41	46	42	47
<b>Leisure</b>	21	35	20	33	20	32	8	9	27	30	54	61

As can be seen in Table 7.11, men and women put different level of importance to household goals; but some level of similarity is also evident. Male respondents attached highest importance to social status (66%), cash income (60%), and health (58%), while females attached more importance to household needs (71%), savings (59%) and health (53%). The first two goals for both men and women differ, while their third priority – health –receives almost similar figures. Given the priority women attach to household needs, it is critical to empower them, so that they can effectively manage their household needs, make savings for their households’ betterment and concentrate on adequate health facilities for their household members.

## 7.8 Conclusion

Input purchase is found to be male dominated activity area. Women participation in input purchase is found to be restricted by socio-cultural issue and restricted mobility. Their exposure to market places was also found to be minimal. While in case of physical activities female work was found to be concentrated in land clearing, weeding/hoeing, and packing activities while minimal participation was recorded for ploughing, pesticide application, watering and marketing activities. Activities like ploughing, weeding and pesticide application and input purchase are



areas where female contribution was found to be limited. These are operations in potato production which are physically very tough and require frequent mobility such as input purchase (i.e., sacks of fertilizer are heavy) and therefore those operations are mainly male-dominated.

These participation results are in accordance with the existing literature. Female participation is not limited to a particular activity but is well distributed along the chain of agricultural activities, although their level of participation can change with the nature of the activity. Given that their participation is prominent in agricultural activities as well as in other relevant income-generating activities, then it is pertinent to explore what factors most effectively contribute to uplifting their social status and development.

# **Chapter 8**

## **RELATIONSHIP BETWEEN PARTICIPATION, INCOME AND EMPOWERMENT**

### **8.1 Introduction**

This chapter is focused on the measurement of empowerment and its relationship to various factors including income, participation and related demographic characteristics. The chapter is organised as follows: after this introduction, Section 8.2 presents data regarding women's empowerment. Section 8.3 presents the results of the calculations regarding the five domains of empowerment (5DE). Section 8.4 then describes the relationship between participation in potato production activities and income. Section 8.5 discusses model construction and Section 8.6 considers proposed models, while Section 8.7 explains the model selection. Finally, Section 8.8 discusses the logic and reasoning behind the choice of model, and its applicability.

### **8.2 Empowerment calculations**

This section uses the IFPRI empowerment index to calculate empowerment scores and other necessary and related indicators. It builds on Chapter 4, where the choice of the IFPRI empowerment model selected for this research project is justified because it contains certain characteristics which differentiate it from other available models, and its importance is established.

Calculation of the IFPRI empowerment model can be divided into two stages. The first stage involves calculating an individual empowerment score and then the aggregate values for men and women. The second stage involves manipulating the calculated empowerment scores across five empowerment domains, making calculations regarding 5DE and determining disempowerment intensity among respondents.

The statistical and mathematical equations for calculating individual empowerment scores and the 5DE were presented in Chapter 5. The results of the empowerment scores are summarised in Table 8.1.

**Table 8.1: Number and percentage of empowered respondents**

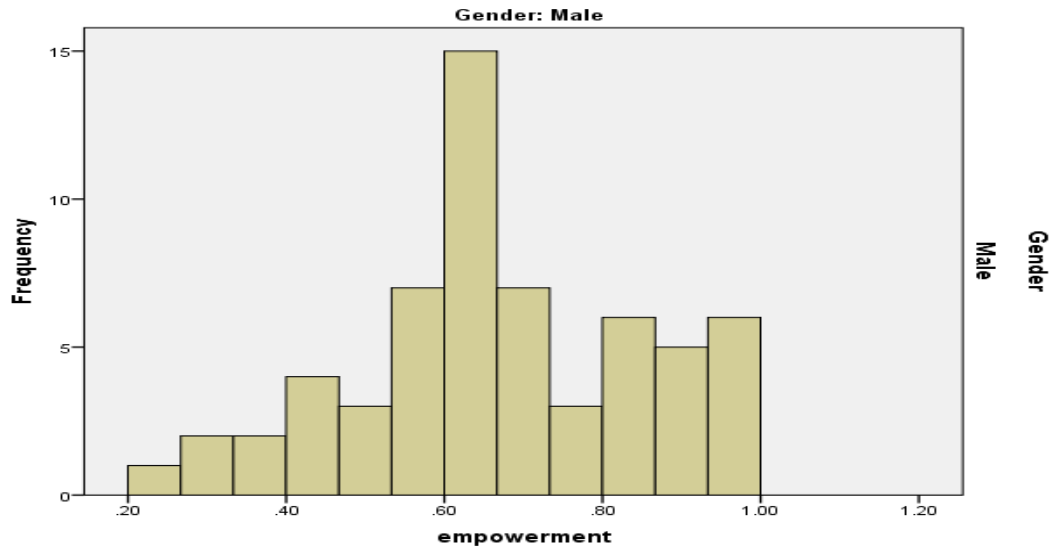
Gender	Empowered		Not empowered	
	No.	%	No.	%
Male	20	33	41	67
Female	10	11	79	89

As mentioned in Chapter 4, an empowerment score of 0.8 and above are considered empowered whereas an empowerment score 1 for an individual respondent denoted the respondent is completely empowered while an empowerment score of 0 denoted that the respondent is completely unempowered.

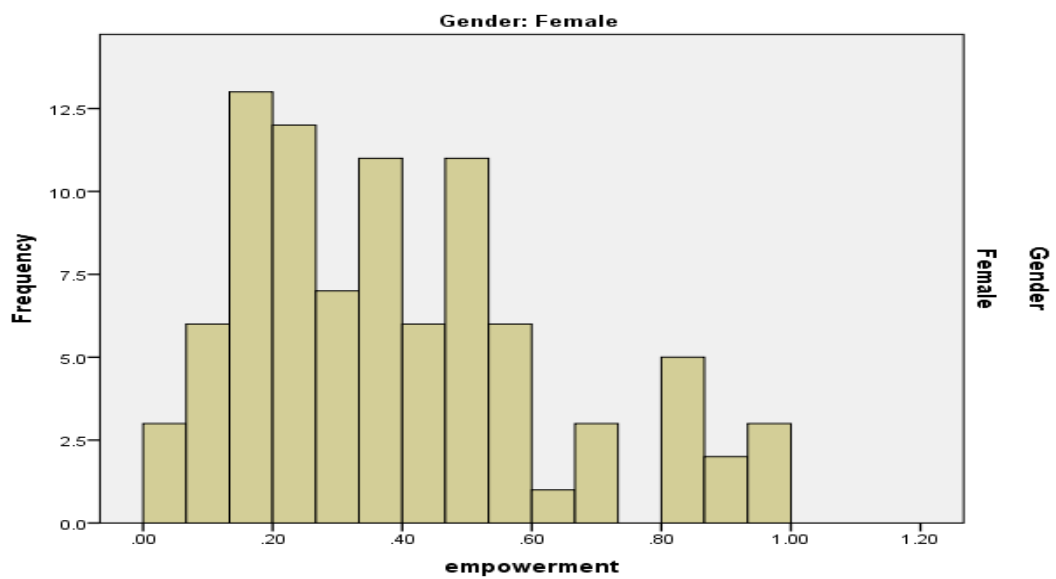
As shown in Table 8.1, the empowerment calculation reveal that out of the 89 female respondents who were interviewed during the survey, only ten were considered empowered: because their empowerment score achievement was more than the threshold limit of 0.8 to be considered empowered. These 10 respondents constitute approximately 11 per cent of the female respondents. Three female respondents were reported to be completely empowered as their empowerment score achievement was 1, while two respondents were recorded to be completely unempowered as their empowerment score achievement was 0.

For the males, 20 out of 61, representing 33 per cent of male respondents, were empowered as they achieved a threshold level of 0.8. Out of these 20 empowered men, six were completely empowered as their empowerment score was 1 while none of the male respondents reported to be totally unempowered which is denoted by an empowerment score value of 0.

These results present a general idea of the level of empowerment; however, it does not provide a full picture of the data. The histograms are useful in presenting results regarding individual men's and women's empowerment scores for comparison, and are provided below (Figures 8.1 and 8.2).



**Figure 8.1 Histogram presenting male empowerment data distribution**



**Figure 8.2 Histogram presenting female empowerment data distribution**

A comparative analysis of Figures 8.1 and 8.2 reveals that scores for individual empowerment among males lies between the values of 0.2 and 1, with most males having an empowerment score between 0.6 and 1, while for females empowerment values range between 0 and 1, but with many concentrated between 0 and 0.7. As higher numbers represent higher empowerment scores, the results indicate that men

in general were closer than women to the empowerment threshold level of 0.80 recommended by IFPRI.

To determine the empowerment status across the five domains, further analysis was conducted for the 5DE. Table 8.2 shows the summary of the empowerment status of men and women across the five domains.

**Table 8.2: Gendered empowerment status across five domains and domain indicators**

<b>Domains</b>	<b>Indicators</b>	<b>Men %</b>	<b>Women %</b>
<b>Production</b>	Input into productive decisions	87	51
	Autonomy in production	77	40
<b>Resources</b>	Ownership of assets	62	48
	Purchase/sale/transfer decision	82	44
	Access to decision about credit	57	20
<b>Income</b>	Control over use of income	69	38
<b>Leadership</b>	Group member	72	25
	Speaking in public	84	30
<b>Time</b>	Workload	72	74
	Leisure	59	40

The results presented in Table 8.1 suggests that men were mostly empowered in the production and leadership domains, and relatively less so in time and resources domains, as on average 82% and 78% males are empowered in production and leadership domains, respectively, whereas on average 65.5% and 67% males are empowered in time and resources domains, respectively. Women were relatively more empowered in the domains of production (45.5%) and time (57%); however, they were least empowered in the domains of leadership (27.5%) and resources (37%).

### **8.3 Five Domains of Empowerment (5DE)**

The need for computing 5DE lies in the fact that it elaborates and explains the data more vividly and comprehensively. As explained in Chapter 5, a second notation is used for calculating the 5DE index, for which average inadequacy percentages and disempowerment index are calculated first. These are presented in Table 8.3.

**Table 8.3: Gendered disempowerment indices**

Indexes	Men	Women
	Disempowered headcount $H_p$	67.21%
Average inadequacy score $A_p$	41.78%	65.43%
Disempowerment index $M_0$	0.2808	0.5810
5DE index (1- $M_0$ )	0.7192	0.4194

5DE= Five domains of empowerment

Looking at the 5DE calculations for both men and women in Table 8.3, the empowered headcount shows that only 11 per cent of women are empowered and approximately 89 per cent are not empowered in the agricultural areas under study. Women's empowerment level is far below men's, as 33 per cent of men were found to be empowered.

The average inadequacy score shows the same pattern for disempowered respondents, i.e., that inadequacy among men was less than among women (i.e., 41.8 per cent of men were found to be achieving inadequately in five described domains, whereas 65.4 per cent women were underachieving). Thus the disempowerment index  $M_0$  for women is  $(88.8 \times 65.43) = 0.5810$  and the 5DE is  $(1 - M_0) = (1 - 0.5810) = 0.4194$ . For men, the disempowerment index  $M_0$  is  $(67.21 \times 41.78) = 0.2808$  and 5DE is  $(1 - M_0) = (1 - 0.2808) = 0.7192$ .

Table 8.3 presents a comparison between men's and women's state of empowerment and shows that women are less empowered than men, suggesting that considerable effort is needed for their condition to improve. Once the 5DE is calculated, questions arise as to how to increase the empowerment of both men and women and decrease the disempowerment ratio. In order to determine the main areas of disempowerment for both men and women, the disempowerment index  $M_0$  is decomposed by indicator, so that those indicators responsible for disempowerment can be analysed, providing information that will allow targeted interventions to be devised in order to develop strategies that will effectively better the empowerment status. Table 8.4 contains the results of the analysis in this regard.

**Table 8.4: Contribution of the five domains and their indicators in  $M_0$**

Statistics	Production		Resources		Income	Leadership		Time		
	Input in productive decision	Autonomy in production	Ownership of assets	Purchase/sale/ transfer of assets	Access to and decisions about credit	Control over use of income	Group member	Speaking in public	Workload	Leisure
Indicator weight	1/10	1/10	1/15	1/15	1/15	1/5	1/10	1/10	1/10	1/10
<b>Women</b>										
Censored headcount	0.494	0.595	0.515	0.5590	0.794	0.615	0.753	0.697	0.258	0.595
% contribution	8.400	10.140	5.830	6.3300	9.000	20.940	12.800	11.900	4.440	10.240
Contribution	0.049	0.059	0.034	0.0372	0.053	0.123	0.075	0.069	0.026	0.059
% contr. by dimension	18.54		21.16		20.94		24.7		14.68	
<b>Men</b>										
Censored headcount	0.131	0.230	0.377	0.181	0.427	0.311	0.279	0.164	0.279	0.459
% contribution	4.640	8.143	8.96	4.300	10.120	22.050	9.900	5.800	9.900	16.240
Contribution	0.013	0.023	0.025	0.012	0.029	0.062	0.028	0.016	0.028	0.046
% contr. by dimension	12.78		23.26		22.05		15.7		26.14	

Although some analysis regarding empowerment status in the five different domains making up individual empowerment percentages was provided in the description of Table 8.1, it is important to analyse *disempowerment* in these domains and indicators. Table 8.3 represents the decomposition of  $M_0$  (the disempowerment index) to show each indicator's share in disempowerment. In Table 8.4 the censored headcount is the ratio of disempowered respondents in each indicator; contribution is the share of each indicator in  $M_0$ ; the percentage share of each domain and their indicators are also presented.

Table 8.4 shows that women are highly disempowered in the domain of leadership, which constitutes 24.7 per cent of the disempowerment index, followed by resources at 21.16 per cent. However, it is noteworthy that women are relatively empowered in the time and production domains. The time domain constitutes only 14.68 per cent of the disempowerment index for women respondents, and production contribution makes up 18.54 per cent.

To further narrow the scope of data, indicators are used for the analysis. Women are found to be disempowered the most in access to and decisions about credit (0.794), and are also disempowered in group membership (0.753) followed by the ability to speak in public with comfort (0.697); lesser contributions are made by their workload (0.258) and input into productive decisions (0.494).

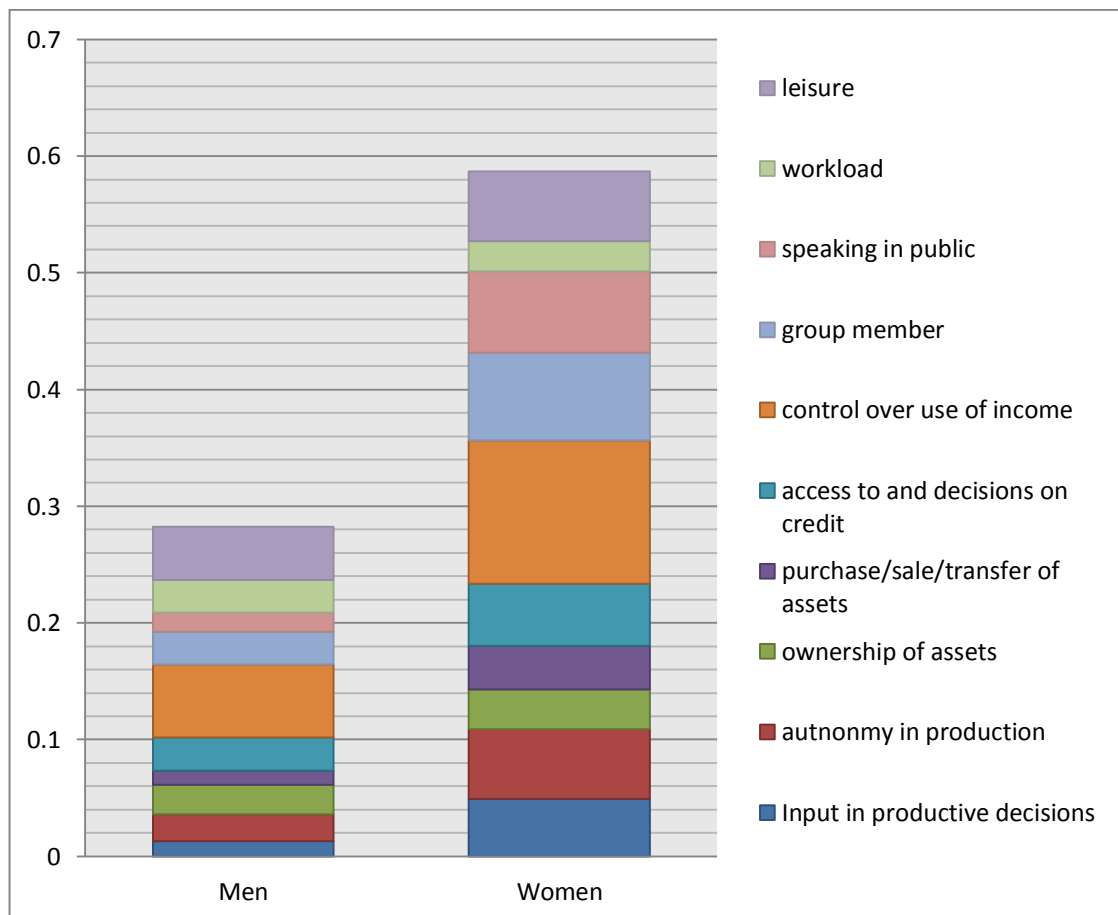
In the case of men, inadequacy was found to be higher in the time domain, which constituted 26.14 per cent of the disempowerment index, followed by resources at 23.26 per cent. Male respondents were observed to be most empowered in the production (12.78%) and leadership (15.7%) domains. With regard to indicator level analysis, male respondents were found to be most disempowered in leisure time (0.459) and by access to and decisions about credit (0.427), followed by ownership of assets (0.377). They were least disempowered in productive decision-making (0.131) and speaking in public (0.164).

It can be inferred from this detailed analysis of women's empowerment and disempowerment status that there are particular domains where women lack certain capacities and access, and that these limit and reduce their levels of empowerment. For instance, inadequate leadership capabilities are a prominent contributor to their



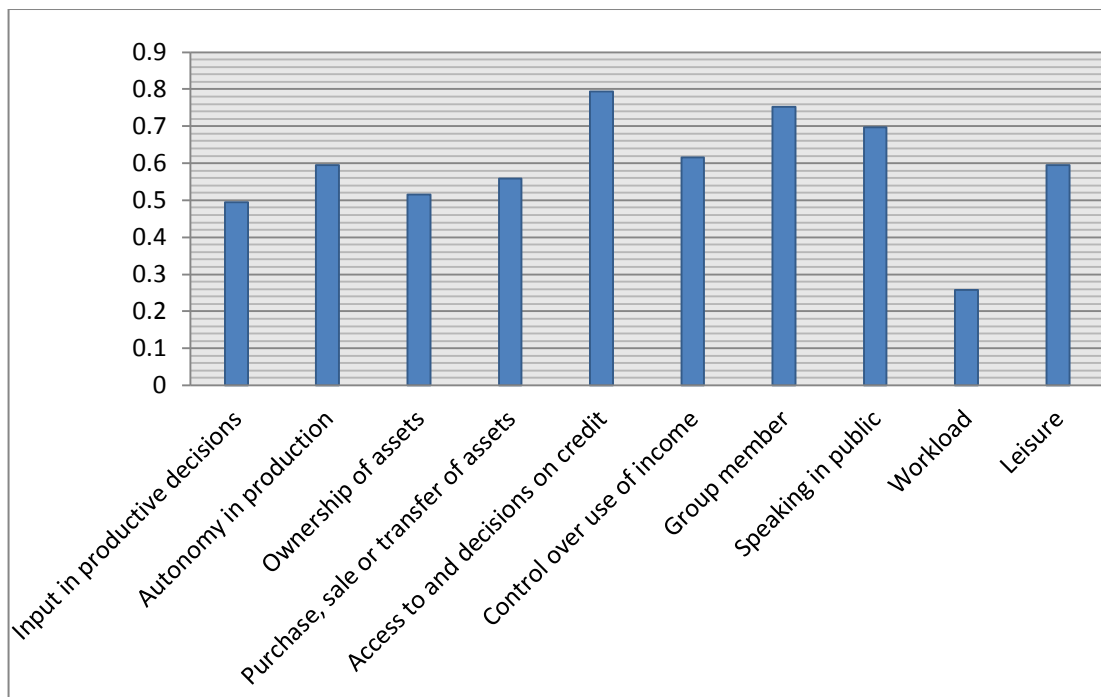
disempowerment. This result concurs with those of Khan and Mann (2008), and of Amin *et al.* (2009) who found that women have lesser exposure and opportunity in community and political matters. Women’s lack of education, inadequate access to resources, lower income and deprived social status are the reasons behind their disempowerment in the leadership domain. Amending these are pre-requisites for women’s participation in political, social and community matters (Miller *et al.*, 1981).

Limited access and ownership of resources, including credit, negatively affects women’s empowerment status, as was noted by Ochieng (1999), FAO (2003), Jamal (2005), Afzal (2009), and Nosheen (2011). These studies affirm women’s deprived economic condition due to mobility constraints preventing easy access to services, inadequate access and control over resources, and limited decision-making authority in the utilisation of these resources; many of these conditions are related to the patriarchal nature of societies.



**Figure 8.3: Contribution of selected indicators to disempowerment index  $M_0$**

Figure 8.3 presents the disempowerment status for men and women by plotting each indicator contribution in disempowerment index,  $M_0$ . The relative gap in disempowerment between men and women is clearly shown. Women are more disempowered than men in every indicator; and women's average inadequacy is greater than men's. Figure 8.4 elaborates on the data presented in Table 8.3, specifically with regard to subdivision of women's empowerment at individual indicator levels.



**Figure 8.4: Proportion of disempowered women with inadequate achievement in selected indicators.**

Fig 8.4 represents women's disempowerment ratios for each indicator. Each indicator reveals a share in the disempowerment status of women respondents, with the highest contribution related to access to and decisions about credit, and the lowest to workload.

## 8.4 Participation and income

The conceptual model suggested in the introductory chapter of this thesis requires a two-phase analysis. Phase one involves checking women's participation and role in potato production, and its impact on income distribution; phase two involves evaluating and explaining the relationship between participation, income and

empowerment. To ascertain the relationship between participation in potato production and women's income, correlation analysis was used. Participation in potato production was broken down into four main areas: input purchase, production activities, processing activities, and marketing activities. The results are presented in Table 8.5.

**Table 8.5: Correlation results regarding participation and income of the women respondents**

<b>Variable</b>	<b>Pearson correlation value</b>	<b>P value</b>
<b>Input purchase</b>	0.248	0.019**
<b>Production</b>	0.228	0.031**
<b>Processing</b>	0.194	0.068*
<b>Marketing</b>	0.508	0.000**

\* Significance at 10%, \*\* Significance at 5 %

This table indicates the presence of a positive correlation between women's levels of participation and their income. The amount spent on input purchases per annum, production and participation in marketing activities is significantly related to the income of individual respondents at a 95 per cent level of confidence. Similarly, participation in processing activities is also significantly related to income of individual respondents, at a 90 per cent level of confidence. The second phase involves ascertaining the relationship between income, participation and empowerment. For this purpose, multiple linear regression was conducted, as discussed in Chapter 5.

## **8.5 Model development**

A credible theory is normally based on a sorting process. Initially it includes a comprehensive list of possible and testable factors that can influence the phenomenon under investigation. The research process involves building and testing various sub-models to identify those that are logical and concrete, and which may be regarded as candidate models. From these, the researcher can single out and select the best sub-model which, by virtue of parsimony, presents the best justification or explanation of the phenomenon under consideration. Because of limitations imposed by the scope and time of the research study, in this case simple sub-models were

preferred over philosophical models. After the selection of the most promising model, the model was tested for validity by subjecting it to cross-validation by statistical tests and tools.

Chapter 7's participation analysis answered questions regarding the extent of the contribution of men and women to potato production and marketing. It also covered income differentials for men and women in potato production and other income-generating activities. The most important part of this research is to ascertain and explain the link between participation, income and empowerment, as elucidated in Research Question 3 in the introductory chapter of the thesis. The research question under focus involves two basic concepts which can influence empowerment: participation and income. The first step involves identification of variables. The outcome or dependent variable is empowerment, while participation and income are the independent variables. As mentioned in Chapter 5, the IFPRI model is used for calculating empowerment. A comprehensive explanation of the methodology employed for calculating empowerment is given in Section 5.4 and 5.5. For every individual respondent, a particular value denoting empowerment status of 0 or 1 was assigned, depending on each individual's score based on the responses recorded during the survey; 0 denotes total disempowerment and 1 is totally empowered. Empowerment thus can also be regarded as a response variable.

As participation and income are independent variables they can also be denoted as predictor or explanatory variables. Participation, as the broader concept, needs to be further subdivided and quantified for the analysis. As potato crop and potato farmers were the primary focus of this study, respondents' participation was recorded in terms of the number of hours spent in various potato production activities, added to obtain a value representing yearly time spent in the field. Participation was also recorded if as respondent raised livestock or poultry, took part in any other business activities or performed any other work in the form of services. Data regarding individual respondent income was recorded using a survey questionnaire which identified total yearly income from various sources including potato production. Various demographic factors were included in the questionnaire design and relevant data was recorded for every respondent regarding age, landholding, experience, access to credit, education and household size.

## 8.6 Proposed models

To explain or identify relationships between the dependent and independent variables, multiple regression analysis using ordinary least squares model was employed. Several variables for explaining participation and income were tested and various groups of factors were introduced in different combinations to determine their impact on empowerment, and particularly on women's empowerment. The three best models were selected for their possibilities as 'candidate models'; these are presented in Table 8.6.

**Table 8.6: Proposed models for the relationship between participation, income and empowerment**

Variables	Model 1		Model 2		Model 3	
	P-value	Beta	P-value	Beta	P-value	Beta
Age	0.400	0.001			0.443	0.001
Size of farm	0.015**	0.065			0.002**	0.087
Experience	0.324	0.001			0.092*	0.002
Education	0.000**	0.070	0.000**	0.080	0.000**	0.098
Household size	0.081*	-0.006			0.013*	-0.009
Total income	0.000**	6.186E-007	0.000**	6.058E-007	0.000**	7.906E-007
Time spent in field	0.005**	0.000	0.000**	0.001	0.266	0.000
Access to credit	0.000**	0.085	0.000**	0.082	0.000**	0.090
Other business	0.066*	0.044	0.012**	0.060		
Participation in livestock	0.057*	0.039	0.053*	0.045		
Participation in services	0.113	0.065	0.006**	0.074		
Participation in poultry	0.816	0.006	0.742	0.008		
R <sup>2</sup>	0.861		0.849		0.837	
F-test (significance)	0.000		0.000		0.000	

\* Significance of 10%, \*\* Significance of 5%

A total of 12 independent variables were evaluated to ascertain their relationship with empowerment as dependent variables. A comprehensive set of variables was used to represent any possible area of influence, including demographic factors, income and participatory factors. The results are presented in Table 8.6 above.

## **8.7 Model selection**

Model 1 includes 12 independent variables to be evaluated for their influence on empowerment, the dependent variable. The independent variables include a range of factors concerning household and individual respondent characteristics, farm characteristics, income and participation in potato production and other economic activities. Regression results conducted with SPSS showed positive relationships between all variables and empowerment except household size. Out of twelve variables, five significantly influenced empowerment at a 95 per cent level of confidence, while three were significantly related to empowerment at a 90 per cent level of confidence. Few of these variables related to demographic characteristics of individual respondents. Participatory factors were a considerable influence on empowerment. The results for farm size, education, total income, time spent in the field, and access to credit showed highly significant values, at  $\alpha$ -value of less than 0.05 and denoted by a double asterisk, while those of household size, participation in livestock activities, and participation in other business activities were significantly related to empowerment at a 90 per cent level of confidence. In the case of household size, a significant but negative relationship was detected, implying that in larger households empowerment was reduced; this fact is supported by existing theories on empowerment.

The emerging trend from Model 1, laying emphasis on the significance of income and demographic variables, requires the construction and subsequent testing of other possible models which may better explain the relationship. With this objective, Model 2 is selected as a possible candidate. In Model 2 demographic factors are reduced while participatory variables are maintained and tested for significance. The results in this case revealed a significant relationship for education, income, access to credit, time spent in the field, participation in services and other business activities at an  $\alpha$ -value of 0.05, implying that participatory variables enhanced their

strength of influence to impact on empowerment; this is presented in Table 8.5 in the column representing Model 2. Participation in field activities, other business activities, and in services enhanced their values while reducing demographic factors, as illustrated by the analysis result trend presented in Table 8.5.

Model 3 was designed by reducing participatory variables and introducing more demographic variables, including age, experience, education, and household size. The results showed a highly significant relationship between income and empowerment. While results for age remained insignificant but positive, size of the landholding, education, and access to credit showed positive and significant relationships at an  $\alpha$ -value of 0.05. Experience also showed positive results, significant at a 90 per cent level of confidence. This result almost matches the first model, with just one more variable included in its list of significant variables. This implies that participatory factors are an important constituent of the list impacting empowerment.

Comparing the three models, it appears that Model 1 is the best model representing factors influencing empowerment. This model provides an opportunity to compare all factors in combination with each other and also provide an in-depth analytical understanding of the theory.

Model 1 was put to various statistical tests to estimate data and model validity. The P-value for this model is highly significant, and its R-square value is highest among all candidate models. The R-square value manifests the explanatory power of the model; for Model 1 it is 0.861, which is well within acceptable limits. The Durban Watson test results also showed optimal values consistent with the model strength, and no significant heteroskedasticity within the data and model could be detected. A collinearity diagnostic table was also referred to check for any multicollinearity within the selected variables, and satisfying results were observed. As it satisfied all the required statistical conditions for model rigor and strength, Model 1 was accepted as the best model.

## 8.8 Modelling factors influencing women's empowerment

Although Model 1 was selected as the best possible explanation for respondents' empowerment as whole, the model was for potato farmers in general, regardless of gender. A further model was run for women and tested for its validity for women's empowerment in particular. Table 8.7 shows the results of the regression analysis conducted for women respondents.

**Table 8.7: Women's empowerment model**

Variable	Model 1 (0.907)	
	Beta values	P values
Age of respondents	0.000	0.752
Size of farm	0.030	0.061*
Experience	0.001	0.667
Education	0.100	0.000**
Household size	-0.005	0.117
Total income	7.350E-007	0.000**
Time spent in field	0.000	0.072*
Access to credit	0.094	0.001**
Other business activities	0.005	0.926
Participation in livestock	0.035	0.202
Participation in services	0.072	0.041**
Participation in poultry	0.036	0.480
R <sup>2</sup>	0.907	
F-test (significance)	0.000	

\* Significance 10%, \*\* Significance 5%

This model perfectly explains the theory emerging from the data. Access to credit, education, income and participation in services is positively and significantly related to women's empowerment at a 95 per cent confidence level. Similarly, size of farm and time spent in field activities are also significantly related to women's empowerment, at a 90 per cent confidence level. The model reveals a higher degree of the propensity of income and participatory variables to influence women's empowerment, which is in accordance with existing theories.



The selected model suggests that a positive and statistically significant relationship exists between women's empowerment and size of landholding. Women's levels of empowerment increase with land holding size. Afzal (2009) studied various factors affecting women's empowerment and found a significant effect of land-holding size: the majority of the respondents in their sample were small landholders and were generally disempowered in agricultural decision-making, although other factors also contributed to their disempowerment. These findings were affirmed by Enete and Amusa (2010), who deduced that household farm size has a positive influence on women's decision-making power in agricultural activities, which is a distinct dimension of empowerment in that large land size, may require several people, men and women, to manage it and make decisions about its utilisation. In this context, Keller (2000) concludes that woman's access to and ownership of land is a prerequisite for their empowerment.

This model also finds a significant relationship between women's empowerment and their access to credit. Various researchers have explored this relationship from different perspectives. Scoggins (1999) finds an improvement in women's social and economic conditions as a result of being a part of income generation activities made possible by being given access to credit. Sarumathi and Mohan (2011) conclude that access to microcredit uplifts social and psychological empowerment rather than economic empowerment, as it brings confidence and courage to fortify one's circumstances and to develop. However, it is worth noting that psychological empowerment and improvement of self-esteem may not enable women to challenge discriminatory behaviour against them (Cheston & Kuhn, 2002). Microcredit programmes are aimed to empower women in deprived conditions, and by providing access to credit, makes possible a growth in the possession of resources, which consequently results in their betterment and the betterment of their families (Mayoux, 1997; Rai 2003); however, Gibbons (1992) and Rai (2004) emphasise the need for reforms in providing credit; sufficient trainings and skills generation are needed to effect change and development, and these researchers emphasise the need to match credit lending with comprehensive strategies including informal education, skills building, social and political awareness. Social and cultural reforms must also to be introduced to empower women; only then will credit access benefit them.

Opio (2003) considered two rural credit programs initiated by the Grameen Bank and the Bangladesh Rural Advancement Committee (BRAC) and evaluated their impact on women's empowerment. These credit programs were found to be successful in empowering women to a significant extent, not only advantaging them economically but also enabling them to contribute to the betterment of their families. Furthermore, confidence was built in the women and they gained recognition in their society, as their social, political and legal awareness grew. A range of studies supports the role of credit in the empowerment of women by reducing poverty and increasing mobility (Paul & Saadullah, 1991; Rahman, 2000; Radcliffe, 2006).

Model 1 presented in Table 8.6 suggests a positive relationship between the educational level of women and their empowerment. This is consistent with Meyer and Prügl (1999) who found that women with lower education were likely to be less empowered, whereas women with better education appeared to have comparatively greater empowerment. This is attributed to the fact that with better educational qualifications one has more consciousness of rights and better knowledge, which in turn provide confidence, working opportunities and self-reliance. Prakash (2003) argues that improving one's level of education can improve status in the household; women have the opportunity to decrease their subordination to men when they gain education and awareness. Pilcher and Whelehan (2004) argue that women can only be empowered if they mobilise politically and educationally, raising their self-awareness. This argument is in line with that of Naqvi *et al.* (2002), who conceptualise women's empowerment as occurring when they are integrated into development processes, fortifying their status economically and raising their consciousness; they situate women's disempowerment in their illiteracy, which restricts their ability to become part of the development processes. Education empowers women in psychological and cognitive ways, makes them aware of their circumstances, and provides them with the ability to change their status (Nosheen, 2011; Nosheen *et al.*, 2010; Phillips, 2005; Pilcher and Whelehan, 2004; Pitcher, 1996).

Sridevi (2005) carried out a systematic study to evaluate quantitatively the empowerment of postgraduate teachers in Chennai. Among several hypotheses, one tested the impact of education on empowerment; this is highly significant, as

education is considered to build confidence and awareness. In the study, education dummy was given the value of 1 if the teacher held a M. Ed, M. Phil or Ph. D. and 0 otherwise. Through multiple regression analysis, this hypothesis was found to be true, as teachers with higher education qualifications were found to have greater empowerment.

Susilastuti (2003) conducted a study in Egypt regarding women's education, work and autonomy, and found that education had the greatest impact on empowerment as educated women were more likely to be employed; however, their autonomy could vary according to the status of their employment (both type and seniority of position and remuneration). Self-employed workers were likely to be economically less dependent on their family, whereas family workers were regarded merely as helpers and were neither paid nor acknowledged; therefore, self-employed women workers were autonomous at their workplaces as well as in their homes.

This thesis also revealed a very strong and significant relationship between income and women's empowerment. Income is a prominent determinant that is strongly related with empowerment, as was observed by Pal (2001). Paul and Saadullah (1991) revealed that poverty constrains women to income-generating activities and thus limits their empowerment. Page and Czuba (1999) and Ozkan and Ozcatalbas (2003) argue that adequate policies must be made to facilitate women with opportunities for economic independence. Women are economically independent if they are involved in paid work or any income-generating activity and are able to make decisions, signs of being empowered and having access to resources. Othman and Martin (2001) and Mehra and Rojas (2008) observe more independence among women who participate in income-generating activities. For this purpose, micro-finance and micro-credit programs are initiated at government levels and by NGOs in various developing regions to support income-generating activities for women; this has been discussed by Ogato *et al.* (2009), Olumakaiye and Ajayi (2006), and Opio (2003).

Income provides women with a degree of economic autonomy and thus helps them improve their social status by giving them greater control over decisions about their own self, thus empowering them (Heaton *et al.*, 2005; Nosheen *et al.*, 2010). Matthews-Njoku *et al.* (2009) conducted a study to measure the impact of different

factors on female teachers' empowerment, and affirmed that women's control over their income empowers them in a true sense. Naqvi *et al.* (2002) conceptualise women's economic independence as a necessary step to empower them: economically active women were found to be autonomous in their workplaces and at home. Women spend their income mostly on their children and household expenses, as was observed by Ranis and Stewart (2005); this has a significant effect on their power to direct change for the betterment of their household (Morvaridi, 1992). Morrison *et al.* (2007) explored women's participation in farming activities and found that income-generating activities performed by women helped to raise their social status and led to further empowerment by proving their competence in the agriculture sector. Thus empowerment is strongly influenced by income.

The interesting aspect of the selected model explains a negative and statistically significant relationship at an  $\alpha$ -value of less than 0.01 between empowerment and family size, but this is not in contradiction to existing theories on women's empowerment as a significant impact of type of family on empowerment is observed in different regions and societies. Women are found to be more empowered in making decisions about their life and family matters if they are members of a nuclear family, whereas women living in joint or extended families are more likely to be disregarded in decision-making. This disempowerment increases if the woman is young. For instance, Meyer and Prügl (1999) evaluated the relationship between empowerment and family type and found that the type of family unit was a significant moderator of empowerment. They found that the average empowerment scores for respondents belonging to nuclear and joint families were 33.48 and 23.58 respectively; the gap in average scores is significant in both situations. As was argued by Memela (2005), women acquire agency to rule with the passage of time, and attain the greater power at later stage of life, for example when they became mothers-in-law and are in a position to dominate their daughters-in-law. This was inferred by Mehra and Rojas (2008) who observed a major difference in the empowerment of women belonging to nuclear families rather than joint families. Likewise, Matthews-Njoku *et al.* (2009) noted that in joint families most decisions are taken by older members, and this tradition restricts younger women from making their own decisions about such matters as mobility and control over resources or income; it can be inferred that daughters-in-law are disempowered as far as decision-

making is concerned in joint families. These findings are in line with those of McCorkle *et al.* (1987), who observed that the nuclear family is a factor positively affecting empowerment. Sathar and Kazi (1997) and Nosheen (2011) also support these findings.

# **Chapter 9**

## **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **9.1 Introduction**

This chapter provides a synthesis of the whole thesis. It comprises four main sections. After the introduction, Section 9.2 contains the summary of the study. Section 9.2 recapitulates the various research findings, while the final part, Section 9.3, contains research conclusions and recommendations.

### **9.2 Research summary**

Agriculture plays a pivotal role in the developing economies of the world. In most developing countries its contribution to the national GDP is found to be the highest of any economic sector and, most importantly, employs the major proportion of the labour force. Agriculture provides food for the growing population of the world, as well as the raw materials to the industrial sector, and also fulfills food requirements for the livestock sector.

With more than 70 per cent of the world's poorest people living mostly in rural areas and depending on agriculture for subsistence, both for food and other requirements, it is imperative that the agricultural sector becomes a means by which the economic and social status of the marginalised and poor peoples may be uplifted. This fact has been recognized by development stakeholders, and various agricultural development plans have been conceived and implemented with the same objective. Varying degrees of success have been achieved by various projects during their implementation, and evaluation and follow-up studies indicate a number of reasons why many fail to achieve their designed objectives. One of the main reasons has been found to be the lack of equal gender participation and opportunity in rural development plans. There is an imperative need to introduce gender mainstreaming in developmental projects, as many studies have established.

Women's contribution to each sphere of life is an agreed fact. It is also a fact that their contribution is concentrated in the agricultural sector. Although their participation in some stages of agricultural production is not equal to that of men, it is nevertheless well distributed along the entire chain of activities, from the initial stages of buying seed and fertiliser to the final stage of marketing. Their contribution to field work alongside their male counterparts depends on the particular activity under consideration; there are some activities where their participation is minimal; others where their contribution is far greater than that of men.

Women comprise half the population living in rural areas. It is not possible to achieve maximum productive results without ensuring effective female participation. This necessitates first acknowledging and documenting their current level of participation in relevant social aspects in general, and economic aspects in particular. Their contribution to family and community economic health is not only in the performance of household activities, but also in undertaking income-generating activities like agriculture and livestock raising; despite this double burden, recognition of their work is found to be very low.

Literature indicates the best remedy for undervaluing, underpaying, and under-recognising women's contributions to be a phased, step-by-step transformative approach that will gradually enhance women's integration in development processes. Women have always played a vital dual role in society, by accomplishing productive work in society and the workplace, and reproductive work in household. However, their contribution is rarely given due recognition in development policies, and until recently there has been serious oversight of the need to include women in developing policies and initiatives. This fact was observed by researchers as early as the early 1970s, at which time an approach was initiated and denoted as Women in Development (WID). This initiated to give women due acknowledgment of their contribution to development, and was based on the principle of involving women in development agendas and providing them with opportunities to expand their untapped potential. However this approach had drawbacks, as it did not deal with the reasons for women's marginalisation. In order to address this concern a more comprehensive approach was initiated, known as Gender in Development (GAD).

The GAD approach was developed to integrate both men and women in the development discourse and bridge the gaps between them by reviewing the power relationships existing in societies. Transformatory strategies of gender mainstreaming were used to change the legal, social, cultural and institutional structures that hindered women's empowerment. Gender mainstreaming was found to be an innovative strategy to overcome the obstacles faced by women in many different aspects of aspect of development; as well, it aimed to create capacities and opportunities for women, empowering them socially, politically, economically, and psychologically.

Women's empowerment is found to be the concept which not only improves women's status but also ensures their effective participation in development processes. Measuring women's empowerment attained much prominence in development discourse, and various approaches were suggested by which to quantify this abstract concept.

Literature reveals two basic approaches to empowerment; liberal empowerment and liberating empowerment. Liberal empowerment refers to women's integration in development agendas by providing them equal access to opportunities and welfare services, without concern for the reasons that unequal opportunities and power relations exist in the society. Liberating empowerment is transformatory in nature, not only incorporating women in the developmental process but also dealing with transforming power relationships and social, cultural and organizational structures, opening the way for women's empowerment in a true sense by overcoming the reasons for their marginalisation. To encourage liberating empowerment, researchers and intellectuals have constructed a number of frameworks by which to enhance women's social, educational, and occupational opportunities. Various factors indicated in these frameworks can positively impact women's empowerment, in particular enhancing their potentials and capabilities, and enabling them to make decisions about their lives and act upon them.

Empowerment is a multidimensional, broad concept with economic, political, legal, cultural, social, familial, psychological and cognitive dimensions that must all be addressed for the accomplishment of empowerment. Although researchers have developed various measures to quantify women's empowerment, the very breadth of



the concept brings with it limitations. In agriculture in particular, women's empowerment has been a difficult task; and because of this, the International Food Policy Research Institute designed an empowerment model which comprehensively measures women's empowerment in the agricultural sector, recognising both the substantial contribution they make to agricultural production and the disempowerment that they endure across social and economic dimensions. Because of this model's comprehensiveness, relevance and effectiveness in measuring women's empowerment in the agricultural sector, the approach was used in this particular study.

Literature identifies various factors which have a positive impact on women's empowerment. Education is one of these: it has been found to have significant effect on empowerment, raising women's consciousness and awareness of their rights. Paid employment is another: women's involvement in paid labour has a significant impact on their empowerment, and a number of studies have found that women with earned incomes are more economically sound and independent in their decisions than women whose labour, in the home or the fields, goes unpaid. Women who have money in their control are able to uplift their social status and make improvements in household conditions. This understanding has led to the realization that access to credit is a basic tool, providing women with the necessary assets to initiate their own businesses, and so to generate income; access to credit is now recognized as having a highly significant effect on women's empowerment.

Despite such specific findings that have clear and measurable outcomes, the essence of women's empowerment lies in their participation in development process. Around the world, women are found to be most empowered in those situations where their participation, whether in agriculture, business or service activities, is strong. It can be inferred that participation is necessary for empowerment.

Women's integration into development processes is largely affected by social, cultural, religious and organizational constraints. Gender mainstreaming strategies intended to incorporate women in developmental discourses and in the empowerment processes aimed at assisting them are strongly, and negatively, influenced by the customs and laws of patriarchal societies. Women's inadequate education and lack of skilled training, forced upon them by cultural and social

constraints, limit their psychological and cognitive empowerment and affect their functional capacity. Lack of access to or ownership of resources, forced upon them by the practices of patriarchal communities and governments, have enforced women's social and economic subordination. Their economic dependence on men is made greater by practices such as wage discrimination. Their immobility and lack of power to make choices about their lives, or to be able to engage fully with issues that concern them because of their deprived economic conditions, are factors that limit their empowerment, as has been found in the literature. These constraints are increased in almost all developing countries by the lack of recognition they receive at governmental level.

A society is a living entity where various factors continuously act to instigate changes within it. These changes impact on gender roles and the contribution any member of the society is permitted to make to the whole. Sometimes these changes are positive and lead to growth and development; others may work negatively. Any developmental strategy designed to uplift the social and economic status of an individual living in a particular society has to be carefully planned with regard to reliable and current data about that society. Literature currently suffers from a dearth of topical gender-sensitive data which can help policy makers develop effective and efficient developmental programs. It is the responsibility of researchers and academics to fill this gap and focus on those developmental issues which can help policy makers.

For these reasons this study was designed and conducted in Pakistan, where women's empowerment status in agriculture has not previously been measured quantitatively. The study not only fills this gap but offers much-needed gender-sensitive data that will assist policy interventions in rural development.

This study examines the role of women in potato farming in Pakistan and looked at the following objectives:

- Determine gender roles in potato production in Hazara Division, Pakistan;
- Assess the relationship of the participation of men and women on household income;

- Determine whether the participation of women in potato production has led to their empowerment; and
- Make recommendations for future planning and studies based on the research findings.

### **9.3 Research Findings**

Below are the key research findings of this thesis:

#### **9.3.1 Gender roles in potato production**

During the data analysis it was found that women participate actively in agriculture and livestock activities. Their contribution is not limited to a particular aspect but is well dispersed. To investigate women's participation in potato production, activities were grouped in four main areas: input purchase, production, processing, and marketing activities.

With regard to input purchase, female contribution was found to be less than that of men. Female purchasing was found to be more active and prominent for some inputs, including manure, synthetic sacks and seed, but less for others such as fertiliser and pesticides. Further analysis revealed that women relied more than men on borrowing to purchase inputs. Over all, women had a lower participation rate than men, which implied that agricultural inputs are mostly purchased by males.

Physical participation in potato cropping starts from potato production activities, this span from land preparation to harvesting. Data analysis shows that a considerable number of women participated in production activities. Their work was more concentrated in land weeding/hoeing, harvesting, bed preparation and planting activities, and less in fertiliser and pesticide application.

Processing activities include packing and transporting the potato crop. The female share in packing was found to be highest, but lowest in transportation activity. Similarly women's contribution to marketing activities was found to be minimal.

### **9.3.2 Relationship of the participation of men and women on household income**

It was found that marketing activities are strongly correlated with the income share of women, hence, increasing their participation in marketing activities is a step that will positively impact on the income derived by women working in potato crops. A similar relationship was also found between the income level of women and input purchases. Participation in production and processing activities also had positive impacts on women's income.

Various factors were found to influence women's participation in marketing activities. Major factors are women's restricted mobility and exposure to market places. In addition to these factors, various other socio-cultural reasons also limit women's participation in marketing, thus negatively affecting women's income share. Women's participation in input purchase is also an important factor that affects women's income share. Women are also experiencing a number of constraints in regard to input purchase activities. Lack of financial resources is a leading factor in this regard. Provision of financial services can prove to be a vital step to ensure women's enhanced participation in input purchase and hence, a greater share in income. Access to credit and other financial services will not only ensure women's greater share in income, but also that their input in productive decisions will be enhanced.

### **9.3.3 Did participation of women in potato production lead to their empowerment?**

The study found out that women's participation in potato production led to their empowerment. In general, however, females were found to be less empowered than males. Women's empowerment was measured across five domains including production, resources, income, leadership, and time, and across ten indicators. Women were found to be mostly empowered in production and time domains, but least empowered in the leadership domain. At the indicator level their empowerment was highest in contributing to production decisions and in ownership of assets, but lowest in having access to and making decisions about credit, in group membership, and by speaking in public.

Education, income, access to credit and participation in services are the factors that contribute most to the empowerment of women at a 95 per cent confidence level. Enhancing all these factors will enhance women's levels of empowerment. Similarly, the size of the farm and the time spent in the field for potato production has a statistically significant impact on women's empowerment, at a 90 per cent level of confidence.

#### **9.4 Conclusion and recommendations**

Women are an essential part of agricultural production, and particularly of potato production in Pakistan. In field activities their participation in comparison to males varies in accordance with the nature of different activities, but is present in all. The most important parts of potato production activities from the point of view of influencing their income share, are participation in input purchases and engaging in marketing activities; the implication is strong that enhancing their participation in these two areas will greatly influence women's income although participation in other activities also may have some lesser impact on this.

From the research findings it can be concluded that women's work needs to be recognized fully in the first instance, and should be converted into meaningful terms by increasing their share in income and their ownership of assets, and by encouraging them to participate in activities which can increase their leadership potential, positively enhancing their empowerment.

Women's empowerment yields better social, political, and economic roles and status for women in society; as they constitute more than half the rural population, this positive change will help in developing rural areas. By ensuring women have the means by which to empower themselves, their status will be transformed from participants into active leaders in the development processes and will result in increased household income. Women's empowerment will help reduce financial stress, the main cause of rural poverty.

Based on the research findings, it is recommended that women's participation level be enhanced further in those areas where it can enhance their empowerment and income, such as participating in marketing and input purchase activities. Increased

engagement in these areas are likely to enhance their mobility and increase their authority in decision-making. They are the key factors that will influence women's empowerment. Women presently have greater dependence than men on borrowing money or inputs from friends or relatives. An institutionalised approach which can replace friends or relatives with a more formal source of finance will not only help them increase their capacity to purchase inputs, but also increase their access and control over resources and give them increased confidence by allowing them more control of the farming processes they engage in. Access to credit itself is found to be highly related to empowerment. Women should be given more access to formal lending and micro-credit schemes, which will prove to be helpful in increasing their empowerment.

Women's education and capacity building are key areas which can prove to be helpful tools in rural development strategies. Education is a mandatory part of development all over the world, and government support is required to enhance the female literacy rate in rural areas. Women are presently working in the field and there is huge potential to not only enhance their participation but also to make it more meaningful. For this purpose, capacity building is the key concept. Women's access to extension services must be ensured so they can be equipped with more efficient technologies that will enhance their agricultural output.

Developmental intervention must be designed and directed in ways that can improve women's ownership of assets that can increase or augment women's status, like land or large agricultural or household equipment. This would allow women to participate more in productive areas, which in turn will impact on their empowerment and economic status.

Women's contributions should be encouraged not only in agricultural and non-agricultural activities, but at every level. Income disparities should be removed, as these are part of the wide income gap between genders. This will not only help in uplifting women's status but will also trigger development. As society is a living organism in which gender roles and responsibilities are assigned and are subject to change with time, researchers around the globe should be encouraged to undertake more research work, so that relevant and fresh gendered data can be provided to the development stakeholders working for development in rural areas.

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**Appendix 1 Cropping Map for Pakistan**

