GENDER AND FOOD SECURITY IN AN IRRIGATION SCHEME: CASE STUDY OF CHIPAPA

HOUSEHOLDS, KAFUE DISTRICT

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Gender and Food Security in an Irrigation Scheme: Case Study of Chipapa Households, Kafue District

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DEDICATION

To my daughter Wezi Chiluba Musa Chilembo

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To you all may the Almighty God bless you abundantly.

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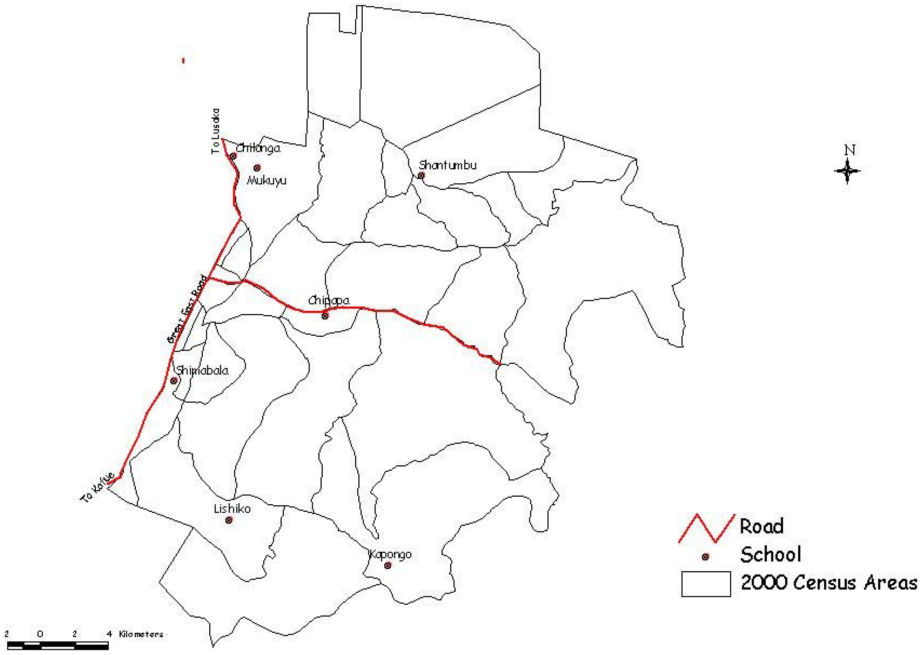
ACRONYMS AND ABRREVIATIONS

ASIP	Agriculture Sector Investment Programme
CUSA	Credit Union Savings Association
FAO	United Nations Food and Agriculture Organisation
GDP	Gross Domestic Product
GIDD	Gender in Development Division
IMF	International Monetary Fund
MACO	Ministry of Agriculture and Co-operatives
MCDSS	Ministry of Community Development and social Services
MMD	Movement for Multi-Party Democracy
MoH	Ministry of Health
NGO	Non-Governmental Organisation
PAM	Programme Against Malnutrition
RIF	Rural Investment Fund
SAP	Structural Adjustment Programme
SPFS	Special Programme for Food Security
TSB	Technical Services Branch
UNFIP	United Nations Fund for International Partnership
USAID	United States Agency for International Development
WFC	Women for Change
WFP	World Food Programme
WIN	Empowerment of Women in Irrigation and Water Resources Management for Improved Household Food Security, Nutrition and Health

Chipapa Area: Kafue District



CHAPTER 1

INTRODUCTION

Chapter one gives the focus of the research by giving the statement of the problem and the objectives of the study. This part of the study gives the geographical location of Zambia (map on previous page), her demography and population as well as the climatic conditions. The chapter further gives a brief background of the socio-economic development and how this has been affected by the political developments over the last three decades. Particular attention has been drawn to the performance of the agriculture sector in light of the changing policies.

1.1 Problem Statement and Justification

Zambia has been having frequent incidents of droughts (1992, 1994/1995 and 1997/1998[1] agricultural seasons) that have led to food insecurity in most rural homes especially among small-scale farmers. These are mainly dependent on rain fed agriculture and hence their food security is at stake with the frequent incidents of droughts. Thus to combat this problem the Government supports irrigation development with the overall objective, among others, to assist small-scale farmers grow more food to meet their daily requirements, buy other kinds of food stuff from money realised from the sale of the surplus crops as well as meet other requirements. Therefore with irrigation supplementing the provision of water, farmers are able to continue crop production even in periods of droughts and in the dry season. This helps alleviate the effects of droughts that lead to household food insecurity.

The question in this thesis is:

What is the socio-economic impact of such an intervention, i.e. irrigation development, on the targeted community, with a special emphasis on women's situation and gender relations?

To answer this general question the following were the objectives of the study.

1.2 Objectives

The main objective was to examine the socio-economic impact of irrigation development in rural areas. The specific objectives included;

i. Women's access to agricultural irrigated land.
ii. The general differences between men and women in the control and expenditure of income earned.
iii. State of gender relations within the households.
iv. Household food security (HSF), productivity and alternatives to agricultural activities.

1.3 Significance of the study

The purpose of the study is to try and look at how irrigation as a development intervention affects gender relations in participating households. This is bearing in mind that women are the major players in the production of food crops while men own most of the land and probably also control what crops are grown for sell and also how the money realised is spent.

1.4 Geography of Zambia

1.4.1 Location and Demography

Zambia is a landlocked country with eight (8) neighbouring countries; Zimbabwe, Botswana, Namibia, Mozambique, Tanzania, Malawi, Angola and the Democratic Republic of Congo. It is located near the sub-tropics south of the Equator. Zambia is part of the Sub-Sahara Africa forming part of the Central Africa.

The population of Zambia is about 10.4 million with an annual growth rate of 3.2 percent.[2] The rural population is estimated at 62 percent and population density varies from province to province but it is an average of 14.2 per square kilometres.[3] The

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[1] GRZ Ministry of Agriculture and Co-operatives, S*trategic Plan for Irrigation Development, (Draft)* (2001) p1

[2] GRZ *Agricultural Statistics Bulletin* (1999/2000) pvi

[3] GRZ Op Cit. vi

country's population is characterised by youthfulness with 49.6 percent being under 15 years of age.[4]

1.4.2 Climate and Agro-ecological Zones

Zambia has a large surface area of 752,000 square kilometres out of which 11,890 square kilometres is water and 740,742 square kilometres is land.[5] 45% of the land is potentially arable while only 23% of the arable land is being used, 3% for commercial farming and 20% for small holder farming. The rest is unused.[6]

Zambia has basically three (3) seasons. The warm rainy season; this is between November and April; the cool dry season, this is between May and July and the hot dry season, which is between August and October. There is only one raining season and most agriculture in the country is dependent on rain. Therefore there is one growing season in the country.

The El Nino and the Inter Tropical Convergence Zone influence the climatic conditions of the country. These influence the rainfall patterns. The former is associated with mostly dry spells (and altitude) and the later is associated with availability of rain.

Zambia is divided into three (3) agro-ecological zones that are based on the physical and climatic characteristics. Zone I constitutes about 12 percent of the country and has low altitude.[7] It receives about 600-800[8] mm rainfall annually. It is dominated by subsistence farming of grains like sorghum and millet using mainly family labour with most common farm implements being hand hoes.[9] Zone II covers 48 percent of the country.[10] 'Zone II receives about 800-1000mm rainfall annually. It is characterised by maize regime. This zone is most mechanised and consequently is the most commercialised in crop production. Cash crops including cotton, irrigated wheat and soybeans are most common. In the recent past production of the country's highly valued cash crops such as spices, flowers and horticultural products are found in this zone.'[11] Zone III constitutes 42 percent of the total land area.[12] This has the highest

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[4] Johannesburg Summit 2002 p iv www.un.org

[5] Jain S. et al *Climate, Water and Agriculture: Impacts on and Adaptation of Agro-Ecological Systems in Africa* (2002) www.ceepa.co.za

[6] Jain S. et al Op. Cit.

[7] Southern Africa Regional Poverty Network (SARPN) www.sarpn.org.za

[8] Jain S. et al Op. Cit.

[9] Ibid.

[10] SARPN Op Cit.

[11] Jain S. Op. Cit.

[12] Ibid.

rainfall in the country with an annual average of 12000 mm.[13] This zone is similar to Zone I where it is mainly characterised by subsistence farming. Some of the crops grown include cassava, rice, soybeans and millet.

The study area Chipapa lies in the agro-ecological Zone II.

1.5 Economic and Social Development

At independence in 1964 Zambia inherited a strong mining-based economy that deteriorated in the mid-1970s following a sharp decline in copper prices and compounded oil shocks.[14] This led to a decline in living standards and to minimise this, there was heavy foreign borrowing. Zambia recognised that there was need to reduce its dependence on the mining sector. It adopted the industrialisation strategy as that encouraged the local companies to produce for the domestic market, but it did little to build the requisite capacity for export.[15] Consequently there was little foreign exchange that was earned. The industrialisation strategy did not work. Its failure led to high incidents of unemployment. The country was facing an economic crisis. To remedy this the Zambian government decided to adopt what is known as the Structural Adjustment Programme (SAP).

1.6 Structural Adjustment Programmes (SAPs)

The Structural Adjustment Programme (SAP) 'is a set of or package of IMF/World Bank sponsored policies which have mainly been implemented in Third World Countries as a supposed antidote to the economic crisis.'[16] These were put, as a precondition by the IMF/World Bank lending institutions to countries that wanted to borrow money from them.

In the 1980s the government implemented the first phases of the Structural Adjustment Programmes (SAPs). The pace of the reforms accelerated in the 1990s with the coming in of a new government, the Movement for Multi-Party Democracy (MMD). Under the MMD government the implementation of SAPs continued and the pace was faster. Public enterprises that were draining the state funds were either

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[13] Ibid.

[14] World Bank *Zambia Poverty Reduction Strategy Paper* 2002 p16 http://poverty.worldbank.org

[15] World Bank Op cit. p16

privatised or closed. Price controls were lifted and agricultural input and output markets were opened to the private sector.

The policy reforms liberalised the agricultural sector and promoted private sector development and participation in the delivery of agricultural services that were previously delivered by government parastatal enterprises. The government withdrew its involvement in the production, marketing and distribution of inputs and also eliminated direct subsidies.

1.7 Agricultural Sector Investment Programme (ASIP)

ASIP implementation begun in January 1996 and was expected to end in December 1999, but due to delays in starting it was extended for a further two years to the end of 2001.[17] It was a holistic approach to provide improved and sustainable service through efficient use of resources. It was based on a small number of sub-programmes. Each sub-programme had specific goals and objectives that were designed to complement each other in order to implement development strategies and achieve overall sector objectives. The sub-programmes were Irrigation, Extension, Research, Agriculture Training, Animal Production and Health, Agriculture Finance, Marketing and Trade, Seeds, New Product Development, Farm Power and Mechanisation, Policy and Planning, Standards, and the Rural Investment Fund.

ASIP provided a solid foundation for the rapid development of the agriculture sector, but its main weaknesses were due to unfavourable macro-economic environment, inadequate resources, and poor agriculture infrastructure and slow private sector response. And despite its successes the agriculture sector was not making a significant contribution towards overall economic growth, neither was it contributing to the reduction of increasing poverty levels in the country. Poverty levels continue to rise both in the urban and rural areas. In 1998, it stood at 72.9 percent of the population with rural areas having a higher proportion at 83.1 percent and among the medium-scale farmers worsening from 65.1 percent in 1996 to 71.9 percent in 1998.[18]

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[16] Jere-Mwiindilila P. (1994) *The Effects of structural Adjustment on women in Zambia*

[17] GRZ Op Cit. p6

[18] World Bank Op. Cit. p iv.

Under ASIP a provision for increased investment and technical support to the irrigation sub-sector, particularly smallholder irrigation was made.[19]

1.8 Performance of the Agriculture Sector

The failure of the agriculture sector to secure livelihoods is considered to have contributed to rural poverty, and over 80 percent of the rural population directly depend on agriculture for food and income.[20] They earn their livelihoods from agriculture-based activities. In addition rural areas suffer from deficiencies in access to basic amenities such as health services, safe water, quality education, and infrastructure that worsen the poverty situation.[21]

Among the constraints associated with the failure of the agricultural sector are included unfair trade practices with the country's regional neighbours; low competitiveness; and an overall reduction in investment inflows to the sector. In addition, the country has had unfavourable weather conditions (flooding and dry spells); increasing outbreaks of livestock diseases; and overall decline in access to agro-services that have all contributed to the slow progress of the sector. Furthermore, there has been inconsistency between policy pronouncements and implementation; poor infrastructure; gender inequality; and HIV/AIDS have also depressed the sector growth.[22]

However, despite these constraints the good performance of the agricultural sector could translate into creation of job opportunities, an expanded tax base and an improvement of the country's Gross Domestic Product (GDP). Hence contributing to economic growth and reduced poverty levels.

1.9 The Traditional Division of Labour in Agriculture and The Role of Irrigation

What has been found about the traditional set-up of the division of labour in Africa is that 'Women traditionally contributed heavily to agriculture in Sub-Sahara Africa, where more than three quarters of working women are to be found in the sector.

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[19] GRZ *(Draft) Strategic Plan for Irrigation Development 2002-2006* 2001, Lusaka, MACO p4

[20] Poverty Reduction Strategy Paper (PRSP) First Draft, 2000 p1

[21] PRSP 2002 p 52

Division of labour along gender lines prevails, with men taking care of the more arduous tasks at the field preparation stage and women predominating thereafter. There is also a division of labour, with women being confined to cultivating food crops and men to cash crops. This also means women have very little control over family income, since food crops are generally grown for subsistence. In total, women contribute over 50 percent of labour in all agricultural tasks, except for clearing the forest and preparing the fields.'**[23]** This situation can be said to be true for most women in rural Zambia.

The role of irrigation whether formal or informal is to allow farmers to be able to grow crops even after the cessation of the wet season. It allows them to extend their planting periods by use of other water resources apart from rainwater. It also allows for the growing of a wider scope for crop diversification. As such the promotion of irrigation as a development intervention has been and still is being seen as a way to help uplift the standards of living of the rural poor, increase agricultural productivity, address issues of food insecurity among small-scale farmers and bring about development to these areas. Hence irrigation is a development intervention that can be used to achieve development in rural areas.

Needless to say such an intervention has implications on the division of labour and the gender relations in communities where it is introduced. By division of labour I mean the roles and responsibilities that both women and men take up in their daily agricultural activities. These people have to reorganise their labour arrangements in order to accommodate irrigated agriculture, especially if the community was not involved even in informal irrigation. Resources, both human and otherwise in the household have to be reallocated.

Given this situation described above, the design and planning of irrigation schemes and the management of such now emphasise the gender perspective. It is recognised that women and men have different levels of access to and control over agricultural land, irrigation facilities and carry out distinct roles in the management and decision-making regarding the above. Gender relations have significant social and economical implications that affect both men and women in areas of food security, productivity, coping strategies and livelihood strategies. While gender strategies usually focuses in

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[22] Ibid. pp55-56

[23] ILO 2000 Reference Box 18
http://www.ilo.org/public/english/dialogue/sector/techmeet/tmad00/tmadr.htm#Box%2018

trying to correct the imbalances in the position of women in society in general, it is however, important that the role men play is given attention in order to reach equitable and sustainable outcomes of irrigated development.[24]

In Zambia, irrigation development begun as early as the 1960s by both the Zambian Government and the private sector, but it can be said to incipient and so far only about 100,000 ha have been developed out of, which 52,000 ha is under medium to large scale irrigation and about 48,000 ha is under informal or micro-irrigation.[25] While statistics appear to be unclear, it appears that 17,000 ha are irrigated on government farms and parastatal estates, 8,000 ha is under large private corporate commercial estates and 10,000 ha is under individual commercial farmers who are the most important and productive cultivators.[26] Most of the formal irrigation schemes are found in Lusaka Province, Central Province and the Copperbelt Province.

Government schemes can be classified into three categories;

1. Large scale commercial schemes
2. Medium scale commercial schemes
3. Small-scale non-commercial schemes

The performance of the private commercial irrigation schemes has generally been good, unlike that of parastatal irrigation schemes and government schemes. However, the performance of the former has been constrained in recent years by high interest rates, high electricity tariffs and marketing difficulties. The large government project covering an area of 10,000 ha is Nakambala Sugar Estates in Southern Province, which was constructed in 1966 and is owned by the Zambia Plc. This was followed by five other large-scale schemes ranging between 1,300 ha and 2,100 ha in the 1970s and 1980s. They are Kaleya Small Scale Company Farm, Mpongwe Development Company, Munkupu Project, Gwembe Development Company and Mastock Company Farm.[27] However, these have not been without their fair share of problems and difficulties that negatively affected the potential for irrigation development in Zambia. Among the problems are included market limitations, lack of irrigation skills and high costs of development.

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[24] UNEP www.unep.org/GEO
[25] MACO, Strategic Plan on Irrigation Development, Draft, 2000 p8
[26] MACO Op. Cit. p8
[27] Ibid. p8

1.10 Past and Current Policies

The irrigation policy as adopted in the National Development Plan (1989-1993), included the development and promotion of a national irrigation programme aimed at both small-scale and large-scale producers through the following strategies;

1. Developing water storage facilities and irrigation infrastructure,
2. Developing gravity fed systems for small-scale schemes for increasing production,
3. Expanding the electricity grid to cater for the irrigation areas,
4. Preparing a national water resources Master Plan and,
5. Establishing a sustainable credit scheme for the promotion of irrigated agriculture.

In 1996 the government adopted a sector wide approach to agricultural development in which it run a programme called the Agricultural Sector Investment Programme (ASIP) (1996-2001). Under this programme the government sought to reinforce the irrigation sub-sector by adopting the following policies;

1. Promoting economically sustainable irrigation systems among small and large scale farmers,
2. Expanding the area under irrigated agriculture and contributing to increased crop production and,
3. Creating rural employment and income generation.

Both the government and the donors funded ASIP. It has now been replaced by the Agricultural Commercialization Programme (ACP), which has been set for implementation from the year 2003. ASIP was extended in the year 2002 in order to prepare the ground for the ACP. The ACP addresses the same goals as the ASIP that have been set for the agricultural sector. These goals are;

1. To ensure national and regional food security through dependable annual production of adequate supplies of basic food stuffs at competitive costs,
2. To generate income and employment to maximum feasible levels in all regions through full utilization of local resources and realization of both domestic and export market potential,
3. To ensure that the existing agricultural resource base (land, water and air) is maintained and improved upon,
4. To contribute to sustainable industrial development, and

5. To significantly expand the sector's contribution to the national balance of payments by, among other things, expanding agricultural exports in line with international comparative advantage.

In order to operationalise the objectives stated above, ten strategies were adopted for ASIP, namely, liberalization of agricultural markets; diversification of crop production; development of the livestock sector; emphasizing services to smallholders; expanding economic opportunities for outlying areas; improving the economic status of women; improving the use of the available water resources; full utilization of land suitable for agriculture; helping farmers deal with natural disasters; and emphasizing sustainable agriculture.[28]

Prior to ASIP, the Water Act was amended in 1995. The revised legislation recognizes the use of water for irrigation for all levels of farmers as not only secondary users, to ensure an equitable and sustainable use of water. It provides for the sale, transfer and inheritance of developed irrigation facilities and it also includes elements of dispute settlement.[29]

The current government policies towards smallholder schemes are to transfer the management and responsibilities for the operations and maintenance of the system to its beneficiaries. But the schemes require rehabilitating or completing in some cases. The take over would allow farmers to manage the schemes independently and sustainably.

1.11 Organisation of Chapters

In the forthcoming chapters I present six other chapters in addition to Chapter 1. Chapter 2 gives a brief overview on family and marriage patterns generally found in Zambia and other parts of Africa.

The third chapter gives a detailed explanation of the methods used to collect data and also the description of the data analysis process that was used. While the next chapters 4, 5 and 6, are presentations of findings in three different chapters. Chapter 4 presents

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[28] Poverty Reduction Strategy Paper, Draft, 2000 p54

[29] MACO, Strategic Plan for Irrigation Development, Draft, Op Cit. p7

Empowerment of women in Irrigation and Water Resources management for Improved Household food Security, Nutrition and Health (WIN) as an active development organisation in Chipapa because it is directly involved in the activities of the beneficiaries of Chipapa irrigation scheme. Chapter 5 looks at the issue of household food security and Chapter 6 makes an attempt to show how gender relations are affected when women of participating households in the irrigation scheme have a source of income.

The last chapter, that is, Chapter 7 is a summary discussion of the major findings of the study and also includes in its discussion issues that emerged during the course of the study.

CHAPTER 2

FAMILY AND HOUSEHOLDS

This chapter gives a brief overview of family and marriage patterns generally in Africa and specifically in Zambia. It discusses the theoretical considerations that have been embraced in this study.

2.1 Family

Family and marriage patterns in Zambia like other parts of Africa take different forms from those of the western world. Whereas in the western world people 'typically conceive of family as conjugal, or nuclear, that composed of a married couple and their children, Africans generally use the term to denote the extended family, several generations of relatives living at home and away.'[30] The family thus by contrast to that of the West typically refers to the extended family system because the vast majority of the African peoples have a unilineal ('one line') descent systems that trace kinship through just one sex – either patrilineally, through a line of fathers, or matrilineally, through a line of mothers.[31] The one line descent system creates large family groups called the lineage and or clan through which they conveniently structure the organisation of social life.[32]

Patrilineal and matrilineal marriage patterns are both found in the Zambian society. In a patrilineal descent system the wife will move to live with or near her husband's kin. Under this system 'the lines of descent and authority converge in the person of one's father or husband. A wife at the time of her marriage, exchanges the authority of her father for that of her husband, and in many patrilineal societies, especially southern Africa, a wife is gradually absorbed into her husband's patrilineal descent group.'[33] While in a matrilineal descent system the husband will move to live with or near his wife's kin. In this kind of descent system the inheritance of property, titles, or political office are inherited from the mothers' brother. The mother's brother is the authority figure rather than ones father, as is the case in a patriliny descent system. In

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[30] Gordon, April A. and Gordon, Donald L. (1996) p222
[31] Gordon, April A. and Gordon, Donald L. Op Cit. p224
[32] Ibid. p224

both cases of descent systems the men hold the formal positions of authority and power. In the patriliny descent system it is the father and or son while in a matriliny descent system it is the mother's brother and brothers. Thus these two systems can be said to be of a patriarchal nature. That is male members of both descent systems are heads of their families. There is male hegemony. This male dominance is also reflected in the land ownership and inheritance practices. 'Land ownership is also controlled by males and inheritances are transmitted via the male line, which makes women dependent on their husband for access to land.'[34] Thus such cultural practices make it difficult for women to directly access land in their societies. Instead 'women typically obtain access to land indirectly through men, usually a male lineage member or woman's husband. In these cultures, wives are allocated land upon marriage, land from which they have an obligation to feed their families. Each wife typically works her own plots in order to provide food for herself and her children.'[35]

Another aspect found in both descent systems is the practice of polygamy. Polygamy according to the Concise Oxford Dictionary (2001) is 'the practice or custom of having more than one wife or husband at the same time.'[36] Of this the most practised or commonly found in Africa and particularly in Zambia is polygyny. Polygyny is 'where a man has more than one wife. This is a common practice in Africa and allowed in 15% of societies world-wide.'[37] Polygyny is practised in the traditional extended family in Zambia. Polygyny allows a man to have several wives with whom he can have 'more children, particularly, male, and to carry the family name. It is also seen as a sign of wealth and to have many wives and children to do the workload. Because of the sexual division of labour, a man needed more than one wife to do the women's work first in case his wife was away, ill or dies. Also, because of wars or other disasters, there might be more women than men in an area so a man might have several wives in order to give the women security.'[38] But with modernisation, Christianity and even the payment of bridewealth for more than one wife, which is expensive, the practice of polygamy is not as wide spread as in the past.

In Zambia the extended family is the norm. This is generally found among almost all ethnic groups. Whether it is in the rural household or even in an urban household. For

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[33] Ibid. p226
[34] Meeker, Jeffrey (1997) p38
[35] Meeker, Jeffery Op. Cit. p45
[36] Northern, D. *Gender Issues* p1
[37] Northern, D. Op. Cit. p1

example, the community in Chipapa where I conducted my study, all households with the exception of one, all had other members of the extended family living with them in addition to their own children. A number of them had up to three generations living in one household. And when asked how many members they were in their homes they counted themselves, their children plus grandchildren, nephews and nieces. Thus the households were quite large and difficult to define.

2.2 Theoretical Considerations

2.2.1 Household

The concept of a household is difficult to define because of the way it is perceived differently in different communities. This is more so in Africa where there are all kinds of varying arrangements of households in different communities. For example, members of a household could reside in the same house, but cook and eat separately or they may not necessarily pool their money together to meet their daily needs. Each member would have to meet their ends separately from other members of the same household. Though these could for instance share the rent of the house they live in. Other arrangements could be that spouses may live in separate residences or that they come and go because they work in another part of the country or they could be in a polygamous marriage were the man rotates or shifts between the households of several wives. Thus to define a household becomes complex due to the intrinsic complexities of the nature of household especially in Africa and particularly in Zambia. However, economic surveys in developing countries usually define the household as a group of people who live together, pool their money, and eat at least one meal together per day.[39] But what actually happens in real life is quite different as is evident by the foregoing literature. Nevertheless this is the definition that has been used in this study.

The study focused on the household as a unit for investigation. The reason being that households and families shape gender relations, transmit gender norms from one generation to the next, and determine the opportunities available to household

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[38] Ibid. p1

[39] The World Bank, 2001 p150

members based on their gender.[40] This study looked at the changing gender and social relations within households participating in irrigation with regard to the impact or effect of such participation on the named relations. For whatever external intervention that is introduced in any given community always has an impact one way or the other on its intended beneficiaries, particularly on relations in the household. The household has to reorganise itself to accommodate such changes that are due to interventions that bring about social change especially that it is the members of the household that get affected by such change. But the effect could be different for the different genders in the household. Thus gender relations are affected. Hence this study examined and analysed how gender relations changed or were altered within participating households.

Another reason why this study focused on the household was that it is also within the household where decision-making is done. This includes decision with regard to resource allocation whether the resource is income, labour or otherwise. For instance, decision will have to be made whether labour is diverted to the irrigated plot much more often or less as compared to the other rain-fed plots. This of course has had implications for the workload of both genders in the household more so especially for women. This extra-irrigated land even meant more working hours for women because they are the ones that supposedly take care of food crops in the home. Thus they have to ensure that the irrigated plot is kept in good shape. This could be the case in this particular area of study for this research. These schemes were meant to benefit women as they were considered to be more vulnerable in relation to food security.

2.2.2 Household Food Security (HFS)

Household food security can be loosely defined as the ability of all individuals to access an adequate supply of food, on a stable basis, and in a sustainable way.[41] There are a number of other definitions of HFS in literature, but the most widely used is that of the World Bank, which defines HFS as access by all people at all times to enough food (of good quality) for an active, healthy life.[42] This is the definition that this study adopted.

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[40] The World Bank, Op cit. p147

[41] Carletto, C. (1998) p 8

[42] Carletto, C. Op cit. p8

Upon examination of the above definition one finds that it has key words that were found to be relevant for my study; *access, enough* and *at all times*. With the frequent incidents of droughts in rural areas, the situation of food cannot be said to be reflective of the above definition of household food security. Therefore to attain this irrigated agriculture would probably make it possible.

However, as to whether after years of implementation such an intervention has made it possible for the situation to change to a much more stable and sustainable availability of food is yet to be seen. This is given the problems of most irrigation schemas face of broken down pumps that cannot be fixed, failure of most of women (the intended beneficiaries of such) to purchase the treadle pumps and their limits to cash and irrigated land.

Furthermore, women being the main producers of food crops, the study sought to examine whether their involvement in irrigated agriculture had translated into household food security given that they have difficulties accessing irrigated land and cash for inputs.

In addition women are also encouraged to diversify into cash crop growing and rearing of small ruminants like goats. The cash crops are meant to raise rural incomes so that they farmers can meet other needs. But the question that came to mind is what would be the implications of cash crop growing for women irrigators in terms of household food security given that they are the ones that are mainly responsible for food crop growing for their families too? This is a question this study pursued and also analysed in terms of increased workloads for women. The link between cash crop growing and food crop growing was analysed in terms of implications of cash crop growing on household food security.

Another aspect of the household food security concept is the issue of vulnerability. That is how households cope in terms of their ability to cope with times of shock like when there are floods, or droughts. The question was which strategies did they adopt in times of food crisis? The study examined this aspect. The target group for the study is one that was considered to be vulnerable to household food insecurity. Hence the study examined coping strategies in terms of whether these households sell their assets or find other alternatives which are non-agricultural based like migration to the cities in search of paid work. Assets can be either physical or human, or merely in the form of social and institutional claims. Within this perspective each household has a portfolio of assets to evolving household food security coping strategies; the breadth and riskiness of these options will map the vulnerability profile of each household.[43] Having dealt with the theoretical considerations that were have been covered in this study, the next chapter gives a detailed account of the data collection methods and a description of the study area.

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[43] Ibid. p8

CHAPTER 3

RESEARCH METHODOLOGY

This chapter describes my experience of fieldwork during data collection, the respondents who were involved in the study and how data was collected from the study area. It further elaborates on the methodological approach used and the choice of techniques used to collect data. It gives a description of the data analysis process.

3.1 Description and Experience in the Field

The data collection period was spread over 12 weeks. It begun with the submission of a recommendation letter from the University of Bergen introducing me as a student whom needed to conduct field research. This letter was taken to the Ministry of Agriculture and Co-operative in the Department of Field Service, Technical Services Branch under which irrigation development falls. There I was directed to see the co-ordinator of the Empowerment of Women in Irrigation and Water Resource Management for Improved Household Food Security, Nutrition and Health (WIN)[44]. The co-ordinator provided me then with a list of irrigation sites among which Chipapa area had the nearest one.

The first day was spent with the WIN team members from both the national team and the Kafue district team. From the Kafue district WIN team a research assistant was assigned to me to help with data collection by the WIN co-ordinator because he was conversant with the farmers in Chipapa area. He worked with the farmers closely as an extension officer.[45]

Different irrigation sites were visited and these included the irrigation site in Chipapa area. In Chipapa, the Dam Management Committee (DMC) was found having a meeting. The chairperson was woman. In attendance was one other woman who was an extension officer from the Ministry of Community Development and Social Services and five men. The secretary of the committee was a man. The other members had not come to the meeting. As the meeting progressed I made some observations of what was being discussed, how the members reacted to responses and particularly to

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[44] WIN: Chapter 4 gives a detailed discussion on WIN.

[45] Extension Officer works directly with farmers by imparting new skills and knowledge to them.

the contributions of the two women present in the meeting. The meeting was held at the main garden that was divided into smaller garden plots[46] that were allocated to participating households of Chipapa Irrigation Scheme.

The research assistant introduced me to the dam management committee members after the meeting was finished. The research assistant was an extension officer working for the Ministry of Agriculture and Co-operatives (MACO) in Kafue District. Chipapa irrigation site was one of the sites that he covered during his extension work. He explained that I was also an employee of the Ministry of Agriculture and Co-operatives, but had come as a student doing research in their area. My main interest in the study was the impact of irrigation in various aspects of their daily lives.

3.2 The Study Area

The study was conducted in Kafue district, which lies about 35 kilometres of the capital, Lusaka. The town of Kafue is peri-urban and still growing in terms of population. In 1996 the district population was estimated at 146,900, with 48.8 percent of the population below 15 years of age[47].

Chipapa area lies in the rural area of Kafue town (Map on page ix) , some few kilometres off the great south road (leading to the southern part of the country in Southern Province and further on to Zimbabwe and Botswana). There are twelve (12) villages around Chipapa area. Of these only eight (8) have farmers with garden plots in the irrigation scheme. These are Mwando, Chityocholo, Chisebe, Mulendema, Shallupa, Chipongwe, Kalimina and Shakato.

The community in Chipapa is under a female chief. It is under Chieftainess Nkomesha. Most of the people there are Soli. But over the years there have been a lot of other people from other parts of the country that have been settled there. As a result there is not just one main language being spoken, which in this case is supposed to be Soli, instead a lot of other languages are being spoken. These include Tonga, Nyanja and Bemba.

Their main livelihood is from agriculture related activities. They grow crops and rear livestock. Their activities are mainly determined by the seasonal calendar that is also in turn determined by the rainfall pattern. They are very busy during the months the

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[46] Garden plots are allocated to members of the irrigation scheme

[47] www.safaids.org.zw p18

rainfall is at its peak, around December. This is when they prepare the land for crop cultivation. Once the land is ready, different kinds of crops are planted, the main ones being maize, which are a staple food, groundnuts and sweet potatoes. These are later harvested mid year around June/July and stored away for future consumption.

The people here also rear domestic animals that include goats, chickens, and cattle. Cattle are very vital in this community. It is used as a source of manure in the gardens and as animal drought power. In the last few years, the community has lost a lot of cattle due to incidence of disease. This has affected production of food crops and hence food security at household levels. 'The loss of animal draught power has put pressure on the productive means especially field crops thereby affecting the food security at household level.'[48] This has meant the majority of farmers use hoes as hiring tractor or oxen from those who still have cattle is expensive. This situation makes the community vulnerable to food shortages that are much more pronounced in the rainy season. The community tries to cope with the food shortages by engaging in non-farm activities and collecting forest fruits, roots and tubers.

Community members join what they call Women's Clubs but whose membership is not restricted to women only. Men are also members but are in the minority. The clubs are involved in various activities among which is included generation of income by selling fish, fritters and growing groundnuts for sell as well as providing a nursery of vegetables for its members to plant in their gardens.

The community has a school, a health centre and no shop. Instead there are small shops called *tuntemba*. These are usually set up by the roadside near the owner's homestead. These sell an assortment of re-packed groceries like sugar, salt and bags of mealie meal.

Like any other community they have difficulties and problems of which the most pressing is having agriculture inputs like seed and fertiliser, marketing issues and draught power. Otherwise there is no lack of extension services.

There have been external institutions working within the community but normally it is to address felt needs. For example organisations that come in times when the community faces a food crisis to give relief food.

The investigation was conducted over a period of 12 weeks with me and the research assistant going to collect data every day from Chipapa irrigation site. The Chipapa

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[48] Ndulu, L. (April 2001) p14

irrigation site has a dam. The dam and the downstream scheme were constructed in the fifties. The dam was rehabilitated by Rural Investment Fund (RIF) in 1998/1999. The downstream garden area is approximately 10 hectares, but not all of it is cultivated. There are eighty to one hundred (80-100) members cultivating the gardens of which 75 per cent is female[49].

From the dam there is a main canal running down to the main garden field, that is divided into smaller plots for different households. Furrows run from the main canal to the plots.

3.3 Selection of Informants: Characteristics of Respondents

Household Number	**Case No.**	**Gender**	**Age**	**Marital status**	**Educational attainment**	**Household size**
1	1	Male	32	Married	Primary	5
	2	Female	32	Married	Primary	5
2	3	Male	57	Married	Tertiary	9
	4	Female	49	Married	Secondary	9
3	5	Male	29	Married	Secondary	7
	6	Female	27	Married	Primary	7
4	7	Male	26	Married	Secondary	15
	8	Female	22	Married	Primary	15
5	9	Male	48	Married	Secondary	12
	10	Female	23	Married	Primary	12
6	11	Male	68	Married	Primary	10
	12	Female	54	Married	Primary	10
7	13	Male	43	Married	Secondary	5
	14	Female	38	Married	Primary	5
8	15	Male	41	Married	Primary	13
	16	Female	46	Married	Secondary	13
9	17	Male	43	Married	Secondary	12
	18	Female	39	Married	Primary	12
10	19	Female	41	Married	Primary	2
11	20	Female	33	Married	Primary	10
12	21	Male	64	Married	Primary	16

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[49] Ndulu, L.S.M Bakker M, (2001) *Empowerment of Women in Irrigation and Water Resource Management for Improved Household Food Security, Nutrition and Health (WIN)*, FAO p4

The extension officer from the Ministry of Social Services and Community Development (MSSCD) and the chair lady of the dam executive committee made appointments with households that were willing to participate in the study. The interviews were to be done by appointments because the farmers were busy with their social obligations like funerals, church meetings and also attending to their garden plots.

Therefore the appointments for interviews were mostly done at the respondents homes. While I interviewed most of the female respondents, my research assistant interviewed the male respondents. Usually we conducted the interviews with both wife and husband simultaneously. Other times I would interview both spouses from the same household while my research assistant did the same with another household depending on how many respondents were available for the interviews on that particular day. On some days we had difficulty finding both spouses of the same household and therefore we would go back the next day or later in the week to try and find them. This made interviewing both spouses of the same household difficult.

We interviewed a total of 21 respondents from 12 different households. (See Table above) The last 3 households only had one respondent who was interviewed because the other was not available at the time of the interviews. Of the 21 respondents 10 were men and 11 were women. They were between the ages of 20 to over 60 years with the youngest being 22 and the oldest being 68 years old. They were all from monogamous marriages and none were separated, widowed or divorced. This may have been because the interviews were arranged by the local leadership and not by us. Therefore we had no control over the selection of respondents.

We conducted 2 focus group discussions with two separate groups, one for men and the other for women. The third mixed group of men and women failed to takeoff because women were too shy to talk in the presence of men and hence only two group discussions were done. (See Appendix A)

Information was also collected through interviews from 5 key informants. They were; one member of the National WIN Project team, 2 extension officers of which one was from the Ministry of Social Services and Community Development (MSSCD) and the other was from the Ministry of Agriculture and Co-operatives (MACO) and one

District WIN Project team member. Plus one member from within the Chipapa community who was also the secretary of the Dam Management Committee (DMC).

3.4 Historical Background of Chipapa Irrigation Scheme

The information on the historical background of Chipapa Irrigation Scheme was provided by key informant number 1 who is a community member from within Chipapa and also a member of the Dam Management Committee (DMC). Other key informants who work in MACO and are also part of the staff on WIN verified the information given by this key informant (number 1).

The Northern Rhodesia Government built the dam in 1953. Its purposes were to provide a source of water for domestic animals like cattle and goats; and to act as a reservoir during a drought. The people dug shallow wells around the dam for drinking and there was no main garden for irrigated agriculture then.

In 1957 Reverend Merfin Temple of the United Methodist Church of London proposed the idea of making an irrigation scheme in partnership with the government. A canal was built from the dam to the main garden in 1958 and full production began the same year. The main garden was divided into small portions called plots or beds that were divided among different households. Each household was given 6 beds. They measure 20 metres by 10 meters each.

The plots were allocated to household heads that were men and they were registered under their names. In place was a deliberate policy to give top priority to women who were widows. But from the households around the scheme, very few women (about 10 out of 58 households) obtained plots. The rest of the households that obtained plots here were from distant places or villages. The number of households that got plots here was few because they feared the tax system. Each household was required to pay tax.

From 1958 to 1982 the scheme operated at full capacity. There was a dam committee that took care of the affairs of the scheme. But there was no financial assistance either from the government or any other sponsor. Members of the scheme contributed money to buy inputs like seeds. They did not use any fertiliser. Instead they used cow dung as manure in their gardens. They mainly grew tomatoes, peas, cabbage and onions. These were mainly for sell.

The committee saved some money from the sales of the cash crops that were grown. From the saving made a light truck was bought to deliver the farmers produce in the Lusaka for sell. They saved with the Credit Union Savings Association (CUSA)[50]. In 1990 the truck gave them problems and when advised to sell it by the reverend Temple, they sold. The selling was done on their behalf by CUSA. CUSA had been appointed to do this transaction, but unfortunately CUSA collapsed in the 1990s and the farmers lost the money from the sell of the truck.

In 1982 the pipe that took water from the dam to the canal got blocked and this resulted in all the crops drying up. The farmers lost their crops. They tried to unblock the pipe but were unsuccessful. Unfortunately there had been no training on maintenance of the facility and how to fix it if anything went wrong. Another problem was that the dam committee was composed of elderly men who could not keep track of the events. There was no proper record keeping. No training was provided for the committee members to be able to keep records of all events including any meetings they held. Hence the irrigation scheme collapsed. Its main garden became a grazing ground for cattle and goats.

However, in 1992 a settler farmer, Mr. Johnson from Denmark approached the Danish Embassy for assistance. The Danish Embassy hired a compressor to unblock the pipe from the dam to the main canal. He asked the community of farmers to mobilise themselves and work together as a team to help unblock the pipe. The pipe had been blocked by silt. This was removed. The farmers resumed their irrigation activities, but later discovered that the main canal had cracks. Cattle and goats that had been grazing on the main garden when production of crops had stopped and had caused these cracks. The cracks on the main canal resulted in loss of a lot of water.

In 1993 the dam later ran out of water. It dried up and so did the farmers crops in the plots at the main garden. This was between the months of February and July.

In 1994 help came in the form of University of Zambia students who had gone to the scheme for their practical work as part of their academic education. They were from the Department of Development Studies in the School of Humanities and Social Sciences. They discussed the problem of water drying up in the dam with the community. On behalf of the farmers they approached the Christian Council of Zambia (CCZ) to help with fixing the main canal. CCZ donated 200 pockets of

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[50] CUSA: This was one of the agriculture lending institutions that directed its activities at small-scale farmers, issuing credit mainly in the form of short-term (seasonal) loans.

cement for the repair of the canal. The canal was repaired, but workmanship was poor because the people that did the work did not have the skill to do a good job.

Nevertheless, by the next year 1995 farmers had resumed full production of their crops at the different plots in the main garden. They were growing tomatoes, rape and cabbage for sell. Their yields were average. Each individual farmer sold his or her products in the open market. There were no special orders from retailers to buy their produce in bulk. And for inputs the initial arrangement of the previous years for farmers contributing to buy inputs, had ceased because farmers were no longer contributing to the committee.

Problems of management of the scheme began to show cracks. The dam committee was in the words of key informant number 1 *composed of ill-trained young men* that failed to manage the scheme well. The purpose of having farmers contribute towards the dam committee was to use the money for renovating the main canal and save towards buying another truck. The previous account had been closed after CUSA collapsed and no other account was opened.

This led to an outcry for another and better functioning dam committee. Farmers wanted a committee that would better address their needs. Between the years 1996 and 1998 a new committee was formed and this would try to sort out the problems the farmers were facing with the irrigation facility. The committee contributed some money to try and mend the canals and WIN took responsibility. The cost was 16 million Kwacha (K16, 000,000[51]) towards the rehabilitation of the dam. The committee tried to repair the dam again using left over cement from the previous years, 1995, but the problem of seepage from the main canal continued despite the repairs. The committee had used unskilled manpower to mend the canal. Again water dried between the months of February and July. Then garden activities would resume again during the rainy season around November or December up to about February and July of the next year. Thus gardening was being done in the rainy season. The dry season was out because there would be no water in the dam.

So in 1999 the dam committee resigned with an exception of one old man. They resigned because other community members who were not willing to pay their contribution to the committee were threatening them. The committee had re-introduced contributions towards the dam committee savings, but the participants

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[51] $3,424.1916 (US Dollar equivalent at prevailing rate) http://www.xe.net/ucc/convert.cgi

refused to pay. They cited that they could not manage to contribute because they made very little money from their savings. As a result the rest of the year 1999 saw the scheme with no committee in place.

The next year 2000 an agricultural extension officer advised the farmers to seek help from the Rural Investment Fund (RIF). The farmers were advised to form an ad hoc committee, which would approach RIF for help. They needed to have the main canal rehabilitated. The coming of RIF to rehabilitate the canal coincided with the WIN Project. WIN came in to appraise the main garden of the scheme.

WIN decided to include Chipapa Irrigation Scheme as one of its pilot project sites for its programme. It began to implement its programme in November 2001.

3.5 Research methods

The study was conducted using a qualitative approach. Using this approach means stressing the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry and they seek answers to questions that stress how social experience is created and given meaning.[52] The idea of this approach is to try to understand the phenomena from the actor's point of view.

Qualitative approach was also used because it is multimethod in focus, involving an interpretative, naturalist approach to its subject matter[53]. This means studying things in their natural setting, attempting to make sense of, or interpret phenomena in terms of meanings people bring to them.[54] Its use of multiple methods reflects an attempt to secure an in-depth understanding of the phenomenon in question. Hence the following combination of techniques were used to capture as much information as possible from the respondents;

3.5.1 Interviews: Questionnaires with semi-structured open-ended questions were used to conduct the interviews with the respondents (See Appendix 3). These allowed for further probing into responses and also seeking clarification on answers given. This also made it possible for us to re-phrase the questions if they were unclear to the

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[52] Denzin, N.K. et al (1994) p4
[53] Denzin, N.K. et al Op. Cit. p2
[54] Ibid. p2

respondent. The questions were translated from English to the local language depending on the respondents' language they were able to use fluently. These were mostly Tonga and Nyanja.

3.5.2 Focus Group Discussions: Initially there was supposed to be a third FGD composed of both men and women, but this was unable to take off because the women were too shy to talk in the presence of their men folk. Thus only 2 FGDs were done. A checklist was used to guide the discussions that were in Tonga. The research assistant translated the questions into Tonga and moderated the discussions, while I took down detailed notes on the responses given.

3.5.3 Observations: These were done both during the interviews and the group discussions. They helped to understand the responses given by observing the way respondents reacted to questions posed to them. The importance lay in helping to see the difference in reaction between men and women posed with the same questions and; the difference in reaction if the respondents were in a group or were interviewed alone.

3.5.4 Secondary Data: Literature was reviewed from reports, documents and books during this period. This was in order to get as much information as possible about the area under study, target group, activities and programs that were introduced in the past in Chipapa. The source of such literature was the Ministry of Agriculture and Co-operatives, University of Zambia Institute of Economic and Social Research, FAO Resource Library and the WIN Project Office.

3.6 Limitations of the Study

Respondents were busy with preparing their garden plots by digging them, weeding, harvesting, selling their products and watering their crops. Some had gone to attend church meetings in other parts of the district. Still others had social obligation like attending funerals. This made appointments very difficult to have with the respondents. Consequently, my research assistant and I had to keep changing the households in order to be able to interview both spouses of a household. This also made the data collection period longer than was planned for.

Another aspect of the study that could be said to contribute to the study's limitation was that the research assistant and I were only given appointments for households that were of monogamous marriages, even if it is possible that this community had some polygamous married couples. Polygyny, 'the legal marriage of one to two or more women concurrently'[55] is traditionally accepted, but with the influence of modernisation and Christianity most men are marrying only one wife. For in Christianity and the modern values of the west call for monogamy in marriage unlike in traditional set up found in Zambia and other parts of Africa. Here one can marry more than one wife for a number of reason among which can include having a big family from which a big pool of readily available labour can be drawn to work in the man fields. Because the bigger his family the more land he can cultivate for his cash crops and the bigger the profit margin.

It is difficult to know for sure why my research assistant and I had appointments arranged with only couples that were in monogamous marriages. One of the explanations may be that the community members may have wanted us to see only the modern part of their community. This being the case it is difficult to make comparisons of changes that were taking place in either female headed households and in polygamous households as compared to monogamous households. This is in terms of the allocation of plots by husbands to their many wives and the division of labour as compared to a husband who had only one wife considering how issues of land distribution are difficult and complex in themselves. *The inability to have to compare between what was happening in a polygamous marriage versus that of a monogamous marriage became a limitation in this study. Hence results presented of findings in subsequent chapters are only on monogamous marriages.*

Further we were met with a methodological challenge while trying to collect data. We were unable to translate the concept of empowerment into the local languages and therefore the questions relating to the empowerment concept were changed and replaced by a question on what the respondents thought were the benefits of the WIN Project so far.

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[55] Tembo, S. Mwizenge (1988) p1

3.7 Reliability and Validity of the Study

Given that the tape recorder was not used during data collection, the researcher sought data of the study area from other sources. The sources included reports of surveys that had been carried out previously and interviewing officers in the agriculture ministry as well as the members of the WIN Project team that have been working for some time now with the farmers in this community. This way the information given by respondents was cross checked against that of the above named sources in order to ensure the reliability of such information.

However, given that the data collected was not meant for replication, but rather to answer the research question and meet the objectives of the study, the information was held as valid as at the time of data collection. The situation is liable to change.

3.9 Ethical Dilemma

Like every other study, this study also had some ethical dilemmas, particularly the invasion into peoples' private lives. The areas of discussion which were covered bordered on what one might consider to be private matters within and between spouses. This was more especially when it came to issues of intra-household relations. These are the kind of things people rarely discuss with other people and, less still not with a stranger who comes in to do research. As such when questions bordering on such areas where posed, most if not all respondents were uncomfortable and hesitated to answer. Thus the skill of probing came to be very useful. Therefore I thus asked much more general questions so as to avoid breaking the rapport that had been created.

Furthermore, confidentiality was assured to the respondents and issues of answers being traced back to them were taken care of by ensuring that there was anonymity. That is why during data analysis respondents were given a code and their names were not mentioned. This way they remained anonymous and their answers were kept in strict confidence.

3.9 Data Analysis and Presentation of Findings

There are several approaches to analysing qualitative data. Among these is included framework analysis. This is a type of qualitative analysis that was explicitly developed in the context of applied policy research with an aim to meet specific information needs and provide outcomes and recommendations often, within a short time-scale[56]. The benefit of framework analysis is that it provides clear and systematic stages to the analysis process so that one can know the stages by which the results were obtained from the data and also allows for the inclusion of a prior as well as emergent concepts to be addressed.[57] This is very important because then specific issues that researchers are interested in can be addressed.

The analysis process has five stages namely;

i. familiarisation of all responses,
ii. theme identification,
iii. coding or indexing of responses,
iv. charting and,
v. mapping and interpretation of the concepts developed during data collection.

Familiarisation is a stage that involves reading through all the data so that one can be familiar with all the responses. The next stage involves identifying major themes that are used to develop thematic charts. The thematic framework is developed and refined in the later stages of analysis. Stage three is the process of applying the thematic framework to the data using numerical or textual codes to identify specific pieces of data which correspond to differing themes (this is more commonly called coding in other qualitative analysis approaches).[58] Charting is the fourth stage were charts are drawn from headings of the thematic framework thereby coming up with a dataset that makes easy reading across the data collected. The charts can be of either themes or cases. Finally the fifth stage is mapping and interpreting. 'This means searching for patterns, associations, concepts, and explanations in your data, aided by visual displays and plots.'[59] This stage aims to define concepts, find associations within the data and also provide explanations.

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[56] Lacey A and Luff D. (2001) *Qualitative Data Analysis* Trent Focus Group p9 www.trentfocus.org.uk/Resources/

[57] Lacey A and Luff D. Op. Cit. p9

[58] Ibid. p10

[59] Ibid. p11

Hence thematic charts were used for focus group discussions for data obtained from key informants while case charts were used from individual interviews, thereby making it easy to go through the data collected. Models were drawn in order to link up concepts that emerged during analysis of data. These were then used in the interpretation and discussion of the findings.

The results have been presented as detailed descriptions of the phenomenon under study using information collected.

CHAPTER 4

PRESENTATION OF EMPOWERMENT OF WOMEN IN IRRIGATION AND WATER RESOURCES MANAGEMENT FOR IMPROVED HOUSEHOLD FOOD SECURITY, NUTRITION AND HEALTH (WIN)

This chapter looks at Empowerment of Women in Irrigation and Water Resources Management for Improved Household Food Security, Nutrition and Health (WIN) the Non-Governmental Organisation (NGO) operating in Chipapa. There are a number of other NGOs that include Riverside[60] and PAM[61] operating in Chipapa area, but their involvement with Chipapa Irrigation Scheme is indirect, and it is usually for food relief purposes during a food shortage. The focus is on WIN because it is directly involved with the activities of Chipapa Scheme.

4.1 Background

WIN is an interregional project that is being implemented in three different countries Cambodia, Nepal and Zambia. It is funded by the United Nations Fund for International Partnership (UNFIP).[62] It is closely linked to the Food and Agriculture Organisation (FAO) Special Programme for Food Security (SPFS) and its follow-up programmes. WIN seeks to expand the impact of SPFS and the sustainability of irrigation and water resources development through linkages with government agencies, Non-Governmental Organisations and the private sector companies in the fields of gender/women empowerment, water management/small scale irrigation/ water harvesting and household food security/nutrition/health.[63]

The chief mandate of FAO is food security. In 1996 FAO launched the Special Programme for Food Security (SPFS) to combat hunger and to put food security as a global priority for 84 Low-Income and Food Deficit Countries (LIFCD).[64] SPFS is

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[60] Riverside: This is a non-governmental organisation that is funded by the USAID. It gives relief food as an agent for the WFP and it also gives training to farmers in conservation farming.

[61] PAM: Its objective is to make contributions to the national poverty reduction strategy through improved food security, health and nutrition. It was established to respond to the urgent need to combat the droughts of the early 1990s in Zambia. It was established in 1993 as an umbrella Non-governmental Organisation to be the co-ordinating agent for food relief distribution at the national level. Appendix C.

[62] Ndulu L. *Participatory Constraints Analysis Follow-up*, FAO, Lusaka, 2001 p1

[63] Ndulu L. Op Cit. p1

[64] UNFIP, FAO, 2000 p4

operational in thirty-eight (38) countries and under formulation in thirty-five (35) other LIFDC.[65] Its aim is to assist improve the LIFDC improve their national food security through

1. Rapid increases in productivity and food production
2. Reducing year-year variability of production and improving access to food through a multidisciplinary and participatory approach on an economically and environmentally sustainable basis.
3. Increasing the net income of farmers and promoting rural employment, social equity and gender sensitivity.[66]

The implementation of the SPFS is in phases; the pilot phase and then the expansion phase.

The SPFS water component was initiated in 1996[67] in Zambia. This was in 15 pilot sites in three provinces. Over the years its impact has resulted in the introduction of the treadle pump, and improvement in the traditional well-drilling techniques and improved availability of water for irrigation. It has also resulted in an increased area of vegetable production as well as raised farm and household incomes. The success of SPFS is evidenced by the rapid expansion of 45 pilot sites in its second year of operation and currently is operational in over 90 locations in five provinces.[68]

4.2 Objectives of WIN

The overall objective of WIN is to ensure the sustainability of irrigation development and its positive impact on household food security, nutrition and the health situation of the local population as well as regional and national food security. Its immediate objectives are to:

1. Increase women’s capacity to participate in and influence irrigation and water resources management and increase their access to productive resources.
2. Assist poor households in increasing and diversifying agricultural production of auto-consumption and increased farm income, introducing timesaving and income-generating technologies.

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[65] UNFIP Op Cit. p4
[66] Ibid. p4
[67] Ibid. p5
[68] Ibid. p5

3. Incorporate public health considerations in the design and development of irrigation and rural water management projects, including safe domestic water supply and preventive measure against water-borne diseases, at household, scheme and community level.
4. Strengthen the local and national capacity to effectively assist the incorporation of gender, household food security, nutrition and health into irrigation and water management projects.[69]

4.3 Project Outputs

In order to achieve its objectives, its specific outputs are;

1. **Empowerment of women in irrigation and water resource management:**

- Increase the participation of women in irrigation and rural water management especially in water user associations
- Ensure access to resources like land and water and appropriate water control technologies to women farmers
- Introduce gender responsive irrigation and other technologies and construction of additional irrigation infrastructures
- Training women in water management and use of appropriate irrigation technologies and land water use.

2. **Crop diversification an intensification for household food security and income**

- Identify intra-household task allocation and food insecure households.
- Train women farmer in household crop production and other diversified agricultural production activities.
- Increase farm income by provision to women farmers of financial and technical assistance for household crop production and other diversified agricultural production.
- Better management through the introduction of labour-saving technology and better organisation.

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[69] Phiri G. Ndulu L. *WIN Semi Annual Report,* FAO 2002 p4

- Increase household income through ability to sell part of surplus of agricultural production.

3. **Incorporation of Public Health considerations in irrigation Development**

- Assess household food security, nutrition and health situation at sites
- Sanitation management plans developed and implemented
- Develop and implementation of communication strategy on household food security, nutrition and health.
- Improved nutrition, hygiene, food security and health status people.
- Development of guidelines for the introduction of improved nutrition, hygiene food security and health standards.

4. **Capacity building, Public Awareness and Guidelines**

- Improved capacity of local institutions to address gender, food, nutrition and health issues and local development agents trained.
- Strengthened capacity of local government and equivalent institutions to plan local development t in a multi-sectoral manner and also improved capacity of local committees to develop micro-projects to improve household food security, nutrition and health.
- Increased public knowledge of food, nutrition and health at village level.
- Guidelines for gender-sensitive inter-sectoral water management prepared for three countries.
- Improved guidelines for the SPFS water control component, to take into account women empowerment, household food security, nutrition and health.

Case studies of three countries and other communication materials documenting the project’s activities and results prepared to guide scaling-up of programmes within the participating countries and for possible replication of the development activities to other countries.

4.4 Areas of Operation

The implementation of WIN in Zambia began in the year 2000. It operates in three districts in three different provinces. The selection of sites included

1. Both dam and dambo (wetland) areas where water tables are high and irrigation mainly takes place by using buckets.
2. Remote and distant areas
3. Areas relatively near to main roads and markets.

The sites are Chipapa and Funzwe in Kafue District, Lusaka Province; Gamela and Siafakwenda in Choma District, Southern Province and; Chilolo and Mwense East Farms in Mwense District, Luapula Province.

The direct beneficiaries of the project in these areas are food insecure households. The staff from both government departments and NGOs who receive training and assistance to ensure that they adequately incorporated gender, nutrition and health considerations into their activities.

4.5 WIN Project Approach

It seeks to develop an approach that integrates gender, irrigation and water management, household food security and nutrition issues. In order to achieve this it works to directly complement activities of other projects such as SIWUP[70] and IHFSAN[71] in the areas of gender empowerment, health and nutrition to increase women’s capacity to participate in and influence irrigation and water resources management. Thus to attain this WIN organises capacity building activities for farmers and staff. It also provides financial and technical support for small-scale irrigation development through the promotion of low cost irrigation technologies and rehabilitation of already existing infrastructure. WIN is also linking up with other service providers like in regard with rehabilitation of irrigation infrastructure.

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[70] SIWUP (Smallholder Irrigation and Water Use Programme) was funded by the International Fund for Agricultural Development (IFAD) and was essentially about increasing beneficiary access to water and thereby enhancing their food security, production and income. It was closed.

[71] IHFSAN (Improvement of Household Food Security and Nutrition in Luapula Valley) is operating in Southern Province and generally its aim is to improve household food security of the rural people.

4.6 Implementation of WIN

The Ministry of Agriculture and Co-operatives (MACO) facilitates the implementation of WIN in Zambia. This is through its Technical Services Branch (TSB) of the Department of Field Services. The Chief Agricultural Specialist Irrigation supports the project as the National Co-ordinator, while a team of national consultants and FAO staff provides the technical assistance to implement activities in the sites in the different provinces.

In the districts small action oriented committees have been put in place. Its members have been drawn from different ministries; MACO, Ministry of Health (MoH), Ministry of Community Development and Social Services and NGOs as well from the church membership in the districts. And at national level there is a Steering Committee that has been established to approve the main directions of the WIN Project.

4.7 Impact of WIN

4.7.1 Management of the Scheme

The first thing that it did was to form new committee that was to be gender balanced. The previous committee was male dominated. WIN requested that the new committee have an equal representation of both men and women so that the committee could also meet the needs of women. This was mainly in terms of women should have access to plots in the main garden in their own right. This was in view of the previous committee failing to approve or to consider women’s applications for plots in the main garden and; also because training and seminars were male dominated. Men were much more often selected to attend these training sessions. Another issue was that of accountability of money that the committee collected from its members. Women were believed to be more accountable compared to men.

The newly formed dam committee composed of 10 members, 5 women and 5 men. The are all elected members of the committee. There is a chairperson (woman), treasurer (woman), Vice Secretary (woman), and 2 other committee members (women) while the rest of the committee members were male. The functions of the dam management committee included:

- To plan activities of the scheme so that it could be economically viable enterprise for example by ensuring full utilisation of the main garden plots.
- To look for and secure a market for the farmers produce and also negotiate the price for their produce on their behalf.
- To maintain the main canal and fence the main garden to keep out the domestic animals like cattle, goats and pigs.

The community members did fencing of the main garden by contributing their labour, materials and money. The maintenance sub-committee was introduced in May 2003. Farmers were taught how to construct toilets under the Ministry of Health. Otherwise most of the repair work was done the supervision of the extension officer from the Ministry of Agriculture and Co-operatives (MACO). The purpose of collecting the money from members was to purchase cement, pipes, and valves needed to run the canal efficiently.

4.7.2 Participation of members

The community members were encouraged to participate in the activities that WIN was going to undertake in this area. Their participation resulted in the identification of community problems and the constraints the community was facing. Among them were maintenance of the canal and capacity building in leadership skills, food processing, vegetable production, business management, small livestock production and the different irrigation methods and interventions. These were analysed by the WIN project team together with the locals. The community suggested possible solutions and these were considered in the activities that were going to be implemented by WIN. Their participation in action planning meant that they too could be aware of the plans that could be undertaken to improve the main garden and the irrigation facility.

This gave the community a sense of commitment and ownership. This is shown by their willingness to contribute labour, wire and some materials like logs that had been cut from tress. These materials were used to fence the garden as a way to keep off domestic animals like cattle, pigs and goats. The animals, as informed by the respondents, destroyed the crop and other times died from the chemicals that had been sprayed on the vegetables. The community members also formed a new dam management committee whose role was to facilitate the activities of the scheme. All this was a reflection of dialogue and co-operation within the community.

4.7.3 Production

WIN Project used the identification of constraints and problems as an entry point into the activities of the scheme. Before the presence of WIN, the activities at the scheme had come to a standstill for over a decade. But when WIN started operations there, the garden activities of the scheme were resumed. One of the big problems the farmers faced was the inability to rehabilitate the main canal from the dam to the main garden. The canal had cracks that lead to seepage. A lot of water was lost before it could reach most of the plots in the garden. They needed cement to mend the cracks. They also could not maintain the irrigation facility like the pipes because they had no skills to do so. They needed training in maintenance skills. WIN took the responsibility to help mend the canals. Before long the garden was in full operation.

Since then there has been an increase in the number of farmers participating in the scheme activities. Most of the old plots are now under use. The area around the main garden has been cleared to accommodate more members of the scheme.

The farmers are encouraged to grow more high value crops in their plots so that they can make a bigger profit margin. High value crops fetch more money. Some of the crops they are encouraged to grow are peas, green beans, garlic and onions.

4.7.4 Capacity building

In November 2002 WIN's first priority was capacity building in leadership skills and Women for Change (WFC)[72] did action planning after being hired by WIN. The action planing exercise was done successfully with more than 75 participants and a 50 – 50 representation of both men and women. The training lasted for 2 days at the

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[72] WFC: Women For Change is a Zambian NGO committed to working with and empowering remote rural communities especially women through gender analysis, popular education methodologies and advocacy to contribute towards the eradiaction of all forms of poverty. Its principle objective is to contribute to the creation of sustainable economic and social systems which are controlled by rural communities and which respond to their needs. http://www.wfc.org.zm/index.htm

community centre. The training seminars were on vegetable growing, record keeping, business management, food preservation and food preparation. The attendance was good with almost 100 per cent turn up of participants. The only drawback with this training was that it was given to farmers before their produce, that is vegetables, was ready.

The seminars on hygiene and sanitation were done by WIN in conjunction with the Ministry of Health (MoH). Farmers were taught on how to best prevent common air and water borne disease. They were shown how to construct toilets and dish ranks for drying plates. They were also shown how to dig up refuse pits for garbage as well as how to utilise human faeces to make manure for their fruit trees in their homes.

WIN also arranged exchange visits for farmers. A team of 6 farmers (3 women and 3 men) had been taken to Choma for an exchange visit. They went to see how other farmers manage their farms and also to exchange their ideas on farming, marketing and vegetable production. Another exchange visit was being awaited to another part of the country in Mwense, Luapula Province in August 2003.

4.7.5 Change in attitudes

WIN hired Women for Change (WFC) to conduct training sessions on gender awareness and sensitisation. The purpose was to help farmers appreciate gender and to know the importance of taking gender considerations when planning any intervention and activities in their community. This impact seems to be good on the community. This is reflected in the composition of the management team that facilitates the activities of the scheme. Previously the committee was male dominated, but this has changed. Now there is equal representation of both men and women. Consequently some of the needs of women have a greater chance to be met. Because there are women forming part of the committee the allocation of plots at the garden has improved. They now most likely approve applications for plots from women.

Further, more men are slowly taking part in garden activities. These used to be left to women. The men could help by clearing the plot by cutting down the trees. They did the more strenuous work and thereafter the women were left to do the more tedious work of weeding until the crops were ready for harvest and selling.

Women are also attending public meetings like those held by the dam committee for the general membership. In the past mostly men attended. The women stayed at home to look after the house, attended to the children and sometimes took care of the ill at home. Or they simply did not see the need for them to attend because they thought it was the men who were supposed to attend. They expected the men to let them know what the meeting was all about. All this has changed. Women attend meetings almost as much as the men. Though the women attend the public meetings, it is however, most unlikely that they are active participants. The reason being that according to their norms they are not expected to talk in the presence of men especially in a meeting. It is precisely for this reason that the planned for mixed focus group of both men and women was unable to take place. When the men and women were put in one group only the men answered the questions and actively participated. While the women sat there quietly listening. Resultantly the mixed group was done away with and instead the men had their own focus group and the women also had their own focus group discussion. This way we were able to get the views of the women.

Ideally WIN intends that women be active participants of discussions concerning their community and it has attained a degree of this by seeing that women attend such meetings. But at the same time the reality is that societal norms are still being observed to a great extent and probably that is the reason why women fail to be active discussants in meetings. This means that the physical representation of women in meetings is there in terms of numbers, but their views and thoughts are less represented because of their failure to talk in meetings.

4.7.6 Role of Women Appreciated

The participation of all community members has encouraged the participation of women in particular. Women have become part of the decision making process. It is recognised that women have multiple roles to play in the community. Other than being farmers, growing vegetables at the plots and in the field, they also have the responsibilities to take care of their homes. They have household chores to be taken care of, look after all members of their households in the preparation of meals as well as look after the ill. As such women are given priority to water their plots first at the garden so that they can be released early to do household chores. These include looking for what to cook, cooking, bathing children, fetching firewood and walking long distances to the nearest bore hole to get drinking water. To have all these chores done needed practically a full day. It is for this reason that the committee decided that they should be given first priority to water use at the garden.

For women being able to grow vegetables at the garden this is a positive change. Their problems of finding relish for their families had been partly solved. They could get relish from the plots. Unlike before they walked long distances to buy fresh vegetables. This has meant a variety of vegetables and hence an improved diet for their families. Women are the ones that have the responsibility to prepare food for their families. They could also sell their crop and have an income. Their income is used to the benefit of all members of the household.

4.8 Conclusion

There are a number of non-governmental organisations working in Chipapa area.

Among them is WIN. WIN has a direct impact on Chipapa Irrigation Scheme because it is involved directly in the activities of the scheme. WIN is an interregional project operating in three different provinces in the country and its overall objective is to ensure a sustainable irrigation development and its positive impact on household food security, nutrition and health of its target population. Ministry of Agriculture and Co-operatives (MACO) through the Technical Services Branch (TSB), a branch of the Department of Field Services facilitates its implementation. It has a national team and small action oriented committees that draw membership from Ministry of Health (MoH), Ministry of Community Development and Social Services (MCDSS), NGOs and the church.

WIN has had an impact on the beneficiaries of the irrigation scheme. There has been a change in the composition of the dam management committee from a male dominated one to one that includes women. It is hoped that with women on the dam committee there could be equal representation of the views and needs of women as well.

The community has been invited to take part in the drawing up of action plans for the scheme. This helps the participants know what is happening.

The training sessions that have been organised by WIN in conjunction with MACO staff, WFC and other interested parties covered different aspects that included gender awareness and its importance in all activities, capacity building in leadership skills and food preparation. The training has resulted in clearly defined roles of committee members, improved meals with nutritional aspects considered during preparation and a change in attitude, in both genders, that is, men and women. Both men and women attend public meetings and women have been included in the decision making process. Above all else the immediate impact of WIN has been the resuscitation of the scheme leading to a return of full production at the scheme after about a decade of no activity. The farmers, particularly women, now have a steady flow of income that has helped improve the general wellbeing of all members of the participating households.

Having seen the apparent impact WIN has been having from the foregoing discussion, it can be safe to say that WIN has to *some degree* been able to achieve its overall objective. That is to have a positive impact on its beneficiaries in terms of food security, nutrition, health and gender equality. All these aspects have been reflected in the findings. The women's capacity to participate actively in water management has been realised by making them a part of the DMC and hence part of the decision making process. Farm incomes have increased especially for women farmers. They now have a steady flow of income from the sell of their vegetables though it is coming in small amounts. These finances have consequently earned them a better purchasing power and also a better social standing. In terms of health and nutrition, we can not say conclusively that it has improved, but we can say that their diets had definitely improved. This is because of the food preparation sessions that participants of the scheme were particularly happy with because they said they led to an improvement in their diets. Health issues have also been addressed by way of building toilets to improve their sanitation and also making rubbish pits. Otherwise further research needs to be done to check for sure if their nutritional status has changed for the better. Finally, the primary goal of food availability had also been attained to a certain degree. Households had food from their plots, which they ate and also sold so that they could buy more food. Therefore all in all WIN objectives had been fulfilled to some degree.

Having discussed the impact of WIN on Chipapa scheme, the next question therefore will be: **Has the primary goal of food security been attained and to what degree?** The next chapter tries to answer this question.

CHAPTER 5

HOUSEHOLD FOOD SECURITY

This chapter tries to answer the questions; has household food security been achieved? What are the implications of cash crop growing for household food security? And what role do women play in food security at the household level? It answers by examining the situation of household food security in terms of whether it has been achieved or not, the implications of cash crop growing for household food security and also the role women play in food security at the household level. Other social outcomes of cash crop growing are also discussed.

The answers and views presented to these questions are from the participants of the scheme and key informants who are among them are included; a social scientist, two agriculture extension officers, one agriculture specialist and a former extension officer who is now a member of the scheme and sits on the DMC.

5.1 Factors Contributing to Food Insecurity

WIN Project conducted a baseline survey before it adopted Chipapa Irrigation Scheme as one of its pilot sites. The aim of the participatory constraint analysis was to understand the local communities current situation, their activities, resources, income and expenditure patters, their difficulties and opportunities for development.[73] The results of the survey indicated a general problem of food insecurity.

The causes of household food insecurity are multiple and complex, stemming from a complex combination of different factors. These can range from the loss of domestic animals to the climatic conditions of an area at a given place in a given point in time. These were reflected by the responses given by the different key informants that were asked about the food situation and the causes of food insecurity among farmers.

The food situation was according to the different key informants interviewed during the study ranging from not good to bad, and they also said that it was difficult to say exactly what was the food situation because they had no concrete information on household security. Despite the last response (key informant number 5, social

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[73] Ndulu, L. and Baker, M. (2001) p1

scientist) of no concrete information on the food situation, a general picture was however drawn of what the situation was like before the presence of WIN (that helped rehabilitate the scheme and get it going again).

According to key informant number 1 (former agriculture extension officer), the food situation for most rural households in Chipapa was different for individual homes. But generally, as he explained, the food situation was not good, as it should be. It was bad because most people were not conscious about ensuring that they were food secured. The farmers sold most of their crops and did not keep enough food in the store for future use. And when they did keep, due to poor storage, it destroyed easily making them vulnerable to a food crisis. And most farmers did not leave enough food in their homes for future use when they sold their maize. As this key informant (number1) explained:

> *People were not conscious about household food security. They had no foresight on keeping food in the home. They sold everything. There was also poor storage. Therefore there was no household food security. If it was there it was inadequate. Actually only a few people kept some food in their homes. Thus the household food security was poor. It was bad.*

Another key respondent (number 2, extension officer from MSSCD, former member of the DMC) also described the farmers' situation of household food security as not good. She explained that the household food security was not good because the farmers had problems with the furrows at the main garden. These were the furrows that brought water from the main canal to the plots in the main garden. Because of this problem, water could not reach most of the plots in the main garden. This resulted in most participants of the scheme not being able to work on their plots. They could not grow their crops and therefore lost a source of income and also a source of fresh vegetables.

Other factors that compounded the problem of food security were the loss of cattle because of an outbreak of the corridor disease. Cattle are a source of food, that is milk and meat, and it was used as drought power. The oxen were used to prepare the land by ploughing fields. After the loss of most of the cattle it meant no adequate meat and milk, no drought power and no manure. It meant farmers had to prepare their fields and plots using hoes. This in turn led them only being able to dig small portions of the field and the plots at the main garden. Moreover, manure from cow dung was no longer available and therefore they had to purchase fertiliser, which required money to buy. Before the loss of their cattle they used cow dung in the plots to make the soil fertile. But now they had to buy fertiliser.

Another key informant (number 3, agriculture extension officer) who was an agricultural extension officer had a different view on the factors that contributed to the household food insecurity. He said that the food situation in this area was generally fair. The food security was different for different households. Some households would be in bad shape while others would be in good shape. He explained that this was usually dependent on the weather and whether the farmer had in his or her possession all the necessary agricultural implements. For example, he went on to explain how bad weather affected the agricultural season for farmers. He said that this season was much better for most farmers, but last season was bad because of the drought. While other years were bad because of input problems. The inputs were expensive for the poor resource farmers and hence they were unable to purchase them. There are organisations that have helped to alleviate the input problem for farmers. These organisations are quite new on the scene, but their impact is already being felt at least in terms of enabling farmers have the necessary inputs for farming like fertiliser and seed. On the whole these organisations contribute to a better farming season for the poor resource farmers and thus to a better household food security too.

However, despite the efforts of these organisations to help improve the food security of most rural households, Chipapa households still have a long way to go. During the baseline survey conducted by WIN in 2001 one of the major complaints of the community members was that of malnutrition, indicating that ‘malnutrition is high among the children (45%) and 5% among adults’[74]. This gave an indication of a great problem of food security.

According to key informant (number 4, district marketing and co-operation officer), the food situation was average now. He explained that before the intervention of WIN Project, the situation was bad. With WIN Project, the area under cultivation was increased and training was given to farmers in food preservation and food processing. The training was to help improve food security in the households. The training also improved diets of the locals because they were taught how to make nutritious dishes from their vegetables and other crops. For instance, they were shown how to make

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[74] Ndulu, L. and Bakker, M. (2001) p24

sausages using cowpeas. With this kind of training focused on food preparation from available crops, the household food security generally had begun to improve in the area.

The question then is: **had the food security at household level really improved?** This question was posed to discussants during the focus group discussions. The answers from them gave the impression that their food situation was much better now that the scheme was in full operation, but still unsatisfactory. This was according to the women's group. The men, when asked, preferred to leave the women to answer this question citing that women were the ones that were in charge of preparing food in the homes and therefore were in a better situation to give a satisfactory response to such a question. This showed that women play a crucial role in food security at a micro level.

The women said that their food situation had greatly improved. But they were not quite satisfied with it yet. One of the respondents put it this way,

> *Yes, our food situation has improved, when the crops are ready then we have food. But since the crop is not yet ready, there is a problem of food. Even if we plant at the fields, we still need maize crops for nshima*[75]*…. But the maize grain is not enough…few maize grain because there was a drought and then when it did rain, the rain destroyed the crop…..*

The respondents explained that as they were not satisfied with their food situation they ventured into other income generating activities. The income they obtained from the sells of the garden produce was inadequate. They supplemented their garden income by selling charcoal, sand and second hand clothes or *salaula.* Men mostly engaged in Charcoal burning and selling of sand while the women and the elderly engaged in *salaula.*

The inadequate income from the garden may be as a result of small size of the plots. Because they are small the amount of produce realised is also affected and hence the profit margins too are not much to meet all their food needs. This has thus led to farmers finding these other means of income. However, it can also be noted that the gender and age of the individual to a certain degree determine the type of income generating activity. For example, the respondents explained that the young energetic

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[75] Nshima: This is hard porridge that is cooked from maize flour and taken with an assortment of relish like meat and vegetables.

men mostly do charcoal burning while women and the elderly prefer *salaula.* This is because the former is strenuous while the elderly can easily manage the latter.

The food situation was also affected by other factors like the weather. If there was too much rain it destroyed the crop and if it were too little, that is a drought the crops died. To cope with such situations the women explained that they obtained what they termed a *loan*. This was usually some maize grain from their friends or at times from the extension officers within their community. This was a *loan* because they paid it back when they got maize of their own. The repayment was the amount of maize they loaned.

5.2 Impact of Cash crop growing on Food crops

Though there was an increase in type of crops being grown, cash crops, this was at the plots and not in the fields. In the fields they continued to grow the same crops. That meant that the food crop grown had not been affected by the growing of cash crops at the plots. Hence there was no reduction in the number of food crops grown. It seems they divided the plot and the field between growing cash crops and food crops respectively. This is reflected in the responses given by the farmers. With the majority of both men and women saying that there was no reduction in the number of food crops grown even if they were now growing cash crops.

A few women said they had seen a reduction in the number of food crops being grown. All the men said they had not seen a reduction in food crops. Cash crop growing had no negative impact on the production of food crops. But for the women, there were those who said that they indeed had seen a reduction in the production of food crops and an increase in the production of cash crops. The reasons were that it is because cash crop growing brought in money for them. So to have more money they increased the amount of cash crops they grew. They grew more of cash crops than food crops. The money was used to meet other needs too.

Yes, for example last year we grew more cash crops than food crops. Because it bring in cash for other needs for example for the maize mill. (Middle aged female, case number 4)

Yes because we need more money to meet other needs like buying of cloths, more inputs like seed that is expensive, more food and shoes. (Middle aged female, case number 19)

For these women, more cash meant more money that translated into other needs that needed money to be met. It also meant a source of income for them as women.

There were also men who said that they could not increase the number of cash crops because they had some constraints, like the size of the plots limited how much of the cash crops they could grow, and seed was also a problem. Otherwise, given an opportunity they would have increased the number of cash crops they grew.

I would have increased the cash crops but because my plots are small in size I have not been able to increase my cash crops. Otherwise there has been no reduction in the number of food crops planted. (Elderly male, case number 11)

It seems this group wanted to increase the amount of cash crops they were growing without necessarily reducing the number of food crops. This way they would have food security as well as income from the cash crops. But because the plots of land were small in size, the cash crops being grown currently could not be increased nor were they ready to forego the current food crops they were growing.

Further, the study found that though the majority had not reduced the number of food crops grown, there were those that resorted to growing cash crops together with the food crops. The small plots could be used simultaneously as a source of income through the sell of cash crops and also a source of food for the family through growing of food crops at the plot, thus utilising the plot to the maximum. While other like earlier explained, chose cash crops that served two purposes, to be sold for cash and to be consumed at home. An example is of this couple (household number 7):

Question: Has there been a reduction in the number of food crops grown due to cash crops being grown on the irrigated plot?

Wife: *It is fifty-fifty because we plant everything in the same plots and even in the fields.* (Young female)

Husband: *Not really because even the cash crops we plant we also consume at home. And therefore we can not say that there has been a reduction in*

> *food crops. We plant almost the same amount of food crops and cash crops.* (Middle aged male)

One of the assumptions of the study had been that the farmers would reduce their production of food crops because they were now growing cash crops. But this has been refuted by the findings of the study. On the contrary, no reduction on food crops production has occurred. Because the plots are the ones being used for cash crop growing while the fields are maintained with the same crops, as before, maize and other traditional crops like groundnuts and sweet potatoes. Therefore it can conclusively be said that the production of cash crops does not necessarily mean a reduction in the production of food crops, but an increase in food and a source of income that in turn is used to purchase more food that the households do not produce. This point is illustrated by the following response:

Mainly we grow cash crops for sell. For example the last farming season we grew for sell, which I sold from the garden. But at the main field we still plant a lot of food crops. (Elderly female, case number 12)

5.3 Food versus others items

The study indicated that sometimes the level of food security was also dependent on the priorities the households had when they had income. That is to decide to buy food first over other items. This was the tendency to give priority to food as opposed to other items. This tendency was different among household members. Depending on who is handling the finances or who has the final say, food could take the first priority or not.

For the majority of the households the first priority was given to food. Very few households opted to acquire other items such as agricultural implements over food and hardly any households invested their savings in other ventures before ensuring that they had all the food they needed in their homes.

A few households however, did tend to buy other items before food, like agricultural implements and inputs and also invest in other ventures like running a small time business such as a pre-school. The reason given was that this way they were sure to have food even in the next season if they equipped themselves with necessary equipment and inputs. And they also said that they normally grew enough maize grain to see them through the year. And therefore this was adequate for them to guarantee them food security throughout the year. It was found for most of such households the men are the ones that preferred to buy or invest in other items while the women preferred to buy food first. The following statements show this;

Household 6

Wife: *I usually buy food while my husband prefers to buy assets like cattle.* (Middle aged)

Husband: *Priority is usually given to seeds and fertilisers because I already have adequate food like maize to feed my family on. I always keep enough for my family to avoid a food shortage.* (Elderly)

Household 7

Wife: *On a daily basis we usually spend on food, grinding maize grain and also on soaps.* (Young)

Husband: *We buy domestic animals for example goats and cattle. Cattle are bought because they can be used for ploughing the fields. Therefore making our work a lot easier. But food is bought on a daily basis.* (Middle aged)

These households said that they grew enough food and therefore could afford to give priority on the use of money to other items over food. This is further discussed in the next chapter.

5.4 Has Cash Crop Growing translated into household food security?

The study was trying to find out if cash crop growing had translated into household food for most participating households. Therefore one of the questions that were posed to the respondents was that now they were growing cash crops, were they able to buy more food and if not then how did they manage to get food?

The responses showed that for both men and women the answer was a definite yes. They were able to buy more food from the money obtained from the sell of the cash crops. There were also a few who said that even before they started growing cash crops under the irrigation scheme, they still grew enough food to feed their families. However, they were happy for the extra income they were able to get from the plots. They, like the rest of the respondents, used this money to buy extra food they did not grow. With more food being bought, especially food that they did not grow, it can be assumed that generally their diets also had become better. Their diets were improved as compared to the time before they became participants of the scheme. The respondents who explained what their perception of a good diet was and also how the production of cash crops had translated into better diets as well as food security in their homes confirmed this assumption. Most of them defined a good diet as one that included beans, vegetables, potatoes and beef. They said it had to be a balanced diet.

Their perception of a good diet reflects a combination of different types of food. But they do not grow all these foods nor keep all the livestock they mentioned as part of a good diet. Therefore they needed to purchase them. And the money from their sells provided the means to do so.

A better diet translated into a better general wellbeing of an individual in terms of health. In this case, given the background of malnutrition related complaints according to one of the key informants, improved diets meant less incidents of such complaints. The baseline survey of 2001 by WIN[76] done in this area, indicated high incidents of malnutrition related complaints. This pointed to the state of their household food security too.

Thus the production of cash crops impacted positively on their diets because with money, they could be able to improve their diets and hence their health in general.

It is better because of the availability of fresh food from the garden. Plus the income that I use to buy other foods we do not grow in my garden and the small field. (Middle aged female, case number 12)

It has improved because now we also eat fresh vegetables like rape, green beans. We are also able to buy more food from the shop. Therefore we are much more energetic and able to work longer. (Young female, case number 14)

However, the ability to buy more food was also dependent on their sells. If they managed to sell their crops profitably, then they could buy more food. If they failed to sell or sold at a loss then it meant they were unable to purchase extra food. Thus buying of more food was also dependent on other factors like the selling price of the crops. This respondent echoes this.

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[76] Ndulu L and Bakker, M. Op Cit. (2001) p14

Our diet varies according to my sells from the garden plots. When I sell then my diet improves, but when I do not sell, then I do not have as good a diet as I would like to. (Elderly male, case number 11)

The study also indicates that the impact of training on food preparation to the farmers resulted in improved diets. The farmers, both men and women, explained that the training on food preparation had contributed to an improved diet for them and their families. This was acknowledged by most of the respondents who were thankful to the food preparation demonstrations they had received.

5.5 Coping strategies in times of food crisis

The farmers used different means to cope when a food crisis hit them. Their coping mechanisms were adapted depending on how bad the crisis was and what was available to help them manage their situation. Some sold their assets, looked for part time work, turned to their social network, ventured into income generating activities, engaged in food for work activities and others got food relief from the Non-governmental Organisations (NGOs) and the government. The different activities done by both men and women and those done only by men and those done only by women are elaborated below.

5.5.1 Social Network

Most respondents are dependent on their social network to cope in a food crisis situation. Almost all of them said they were heavily dependent on their children and the extended family as well as close family friends. If they had children working in the city or in town they sent them money to buy food or they bought food for them. This was also confirmed during discussions with most of the key informants who explained that the social network saved people during a bad year, except for a few who did not have relatives that could help them. This is explained by one of the respondents below;

We usually go to my sister' children who work in the city, Kabwe. They assist me with money for food or they buy me food to take home with me. (Middle aged male, case number 13)

The social network is important because it cushions them against food shortages.

5.5.2 Income Generating Activities

As already told, farmers had a number of income generating activities that included charcoal burning, selling river sand for building, joining of women's clubs, collected wild fruits and mushrooms for sell, run small shops locally known as *kantemba*, took up blacksmiths, beer brewing and selling of second hand clothes. Of these activities charcoal burning was the most commonly practised.

5.5.2.1 Charcoal burning

Charcoal burning and selling came out prominently during individual interviews, focus group discussions and also when talking to key persons during the study.

This activity is practised a lot in this area and more so during the time when there was a crisis in food availability in the homes. Charcoal is burnt for sell and hence a source of income. It is sold either within the local community or taken to the nearest town.

It was mostly the men that were involved in charcoal burning. For women, as the men's group pointed out, it was usually the widows who engaged in this activity on a fulltime basis. The other women only went to help out their spouses once in a while. The men would cut down the trees and chop them into smaller logs, while the women heap them into a pile. Together with the men this pile of logs was covered with mud (wet soil) and a small hole left where the logs would be set on fire and left to burn for some days until the wood were burnt into charcoal. Later the fire is put out and the baked mud removed. The charcoal is then packed into bags that are taken to town for sell.

The men carried the charcoal on their bicycles to the nearest urban place where it was sold at the market place. Sometimes they sold it by going from house to house ringing their bells to attract the attention of the urbanites. They carried up to three bags of charcoal on their bicycles.

Though this was among other income generating activities, the most popular, the farmers did explain that they feared that it would lead to environmental problems in the near future. It would result in deforestation and probably less rain. Therefore they were quite happy that they now did not necessarily have to be very much dependent on charcoal burning. They were happy that the irrigation facility problems had been sorted out so that they could instead engage full time into cash crop production and less on charcoal burning.

5.5.2.2 Selling Sand

Other income generating activities included selling river sand that was dug in the bush. It was piled and later packed in big trucks to be sold in the nearest town. Sometimes the buyers would come to buy from the farmers in the bush with their vehicles. Men mostly did this activity.

5.5.2.3 Wild Fruits and other activities

The search for wild fruits in the forest was yet another activity that was undertaken by both men and women. Wild birds, roots and tubers were also collected from the forest. They took them to the city market for selling. They also collected mushrooms if it was during the rainy season.

Beer brewing was mostly an activity that women engaged in. Men went into blacksmith. They made hoes, axes and buckets. These were sold locally or taken to town for sell. Grass cutting was yet another activity that was undertaken by some women. The grass was mostly sold to the locals. It was used to thatch their houses.

5.5.2.4 Shops

There were also those that said they had small shops that were locally called *kantemba*. A few of the respondents had managed to open these small shops near their homesteads along the roadside. That way people could buy whatever they were selling in their shops. Usually they sold most of the basic commodities that the locals went to buy from town. These were sugar, tea leaves, soap for bathing, washing powder, cooking oil and salt. But when the owners of the shops bought these, they were later repacked into smaller packets. This way they fetched a smaller amount of money, which the locals could afford to buy.

5.5.2.5 Clubs

Still others joined what they called Women’s Clubs. In these clubs the majority of the members were women. Though referred to as women’s clubs, these clubs actually had male members too, but these were in the minority. The clubs were involved in moneymaking ventures. These included making fritters for sell, growing groundnuts and maize for sell and also rearing chickens, goats and pigs. They also sold fish. The women explained during the focus group discussions that when their families were faced with serious food crisis, they sold their chickens, goats and pigs. This was done as a last resort during a food crisis.

5.5.3 Part-time Work

Though both men and women mentioned most of the income generating activities, they also sought part time work in neighbouring commercial farms. They went there to weed or harvest if the crop was ready. The men also at times were given part time jobs to build houses. But they said that the men mostly took up these kinds of work, while the women remained at home.

5.5.4 Selling of assets

Another strategy adopted by most households was the selling of some of their assets. This was however, as pointed out by some respondents, done as a last resort.

Most households own livestock that include goats, pigs, cattle and chickens. They also owned agriculture farming implements that included ploughs, hoes, axes, ox-carts, planters, wheelbarrows and harrows. Among their assets were also included the houses in which they live especially if they had iron sheets as roofing material or asbestos. Household goods were mentioned too. These were electrical appliances like the television set and the radio. But in the rural set up they used batteries to operate these items. Other household goods were furniture, that is, beds, chairs and tables; and also kitchenware that included plates, cutlery, pots, the mortar and the pestle, buckets and cups. The use and control of these items was divided between the genders. According to Ndulu, L.[77] the resources that were controlled and used by men included bicycles, cattle and land, both the rain fed (field) and the irrigated land (plots), while women used and controlled mortar, pestle, chickens, and pots and plates (kitchenware). Ndulu further observed that while men mostly controlled and used resources of value, the women did not seem to have anything of value, but they both used the land and electrical appliances, inputs and furniture. Hence it was seldom to find women using such items as bicycles to carry their bags of vegetables. Men mostly used the bicycles. But women can get permission from the men to borrow and use the bicycle. Otherwise bicycles and other forms of transport like combustion

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[77] Ndulu, L. AND Bakker, M. *WIN: Participatory Constraint Analysis* (2001) pp8-9

engines and the oxen, as observed by Else Skjønsberg[78] in Kepa village, changes transport issues from women's affairs to that of men's affairs.

When it came to selling they preferred to sell mostly the chickens and then the small animals like the goats and the pigs. Cattle were rarely sold. The chickens and the small ruminants were easy to replace unlike the big animals like cattle. They also did not sell any of their agricultural implements because as they explained, these were very expensive to buy and therefore if sold, it was difficult and costly to replace them. Most respondents like this male elderly farmer who said that the agricultural implements like the harrow expressed this concern. He explained that items like the planter and plough are not sold because they are expensive to purchase again. And as he added, they are usually their source of security. Another female respondent who explained that they usually sold assets like the cattle and chickens, mainly the items like these that could easily be bought, but for big items like the plough, harrow and planter were very difficult to acquire. These were not sold. Bicycles, like the agricultural implements were equally vital for the male farmers and they too were not sold that easily. Bicycles were their means to transport their produce to the nearest point where they got on a bus to get to the market in the nearest town. They were also important for other errands like taking the sick to the clinic.

5.5.5 Food Relief

Food relief was obtained by both men and women from both the government programmes for relief food and other non-governmental organisations that were engaged in distributing relief food. Relief food was not given for free. Only those that were considered to be vulnerable were given food for free. The vulnerable included the disabled, the elderly and old, and the orphans. Households that housed any of these groups of people were given food for free. As for the rest, they had to work to get their food.

The government food relief programme gives food to farmers when they finish doing the work that has been assigned to them. This could be weeding the surroundings of the local clinic or the school. Or they might have to clear the bushes to make the roads. Usually they are given a food pack that includes beans, rice and the maize.

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[78] Skjønsberg, Else, *Change in an African Village: Kefa Speaks* (1989) p62

There are quite a number of NGOs that take food relief to people in rural areas. In this area however, the most active ones were Riverside and the Programme Against Malnutrition (PAM). The United States Agency for International Development (USAID) funds Riverside. Riverside gives relief food as an agent for the United Nations World Food Programme (WFP). It also trains farmers in conservation farming.

PAM has a programme that provides a food security pack to farmers. This programme targets vulnerable but viable farmers. It is a highly subsidised programme that gives farmers inputs, which they have to pay back later.

5.6 Alternatives to agriculture related activities

The study indicates that most of the coping strategies that were adopted by the farmers were very similar to their alternatives to agriculture related activities. They overlap each other. Having a small shop by the roadside close to their homesteads, seeking employment, joining clubs, tailoring and blacksmiths. These ventures were both seen as alternatives to their daily agriculture based livelihoods as well as coping mechanisms to face a food shortage.

5.7 Social Benefits of Cash Crop Growing

Other than an improved household food security and a better diet, the farmers pointed out other benefits of growing cash crops. These included the obvious financial gain that led to farmers having an increased purchasing power and also meeting other social needs that have to be paid for. The social benefits accrued to other members of the households. Among them were included the ability of households to be able to save, to purchase some assets, send their children to school and pay for medical services.

The study is thus giving an indication of financial benefits from the selling of the cash crops. Both men and women welcomed the monetary benefits. They all explained how it helped them meet some of their social needs other than being a source of food. They went on to say that though the money was generally being obtained in small amounts at a time, they were able to save these small amounts until the amount was big enough to be used for other requirements.

Household 6

Wife: *The crops help us to have a source of income for soap, sugar and relish like fresh vegetables for home. And also schools fees by keeping the money until it was enough to meet school requirements like books and fees.* (Middle aged)

Husband: *When we first begun, it helped me financially in paying for school fees, food, inputs like seed, fertiliser, and clothes. The money was used to meet our needs at home. But nothing big like assets was bought from this money. The money obtained was not adequate because of the plot being too small in size.* (Elderly)

Most of my informants were unable to say the exact or too give an approximate amount of how much money they were making on average in a month. The reasons cited by some of them were that they did not keep records of what they made from each sell of their crops. They also spent the money as they earned it. Others explained that it was difficult to ascertain how much they raised from the sell of cash crops because this money was kept together with that which was raised from other activities. These activities where different for men and women. The women engaged in selling vegetables from a market stand in their locality, or they sold re-packed groceries of sugar, salt or cooking in their small shops. For most of the women, this was their main means of income. While the men sold bigger livestock, put their ox-carts for hire, did brick laying, built houses for others at a fee or fixed water pumps in the bore holes. In additions the men also had the field from which they sold their harvest every year. The field was their main source of income. All these sources combined formed the main source of income for their daily needs.

They were able to save small amounts at a time for future use, but because the money was coming in small amounts, it was very difficult to save it to buy big assets such as agricultural implements like the plough, harrow and planter. These were bought mainly from money men obtained from the sell of the crop from the main field. However, the savings were reportedly inadequate for them to open an account with the bank. Generally the monies saved over a number of months was used to buy toiletries, clothes, meet school requirements and other daily requirements.

On the whole they said that the general well being had improved greatly. They now had more food for all members, were better dressed since they could now more often to a greater extent afford to buy clothes, send their children to school, meet their medical bills and also re-invest their money in other ventures such as the small shops.

5.8 Conclusion

The household food security situation of the area was generally poor due to mainly drought incidents that were frequently occurring over the years. But with the construction of the dam and consequently engagement of the farmers in cash crop growing, their food situation has improved over the years, though the farmers were still quite unsatisfied with it.

The production of cash crops has not necessarily meant a reduction in food crops being grown. On the contrary food availability in households had improved because once the cash crops were sold, money was used to buy food. Farmers are growing their cash crops in the plots and have continued to grow their food crops in the field.

Women play the most important role in household food security because they ensure that the family has sufficient food to eat and also are the ones responsible for the preparation of this food. Therefore their involvement in cash crop growing has translated into a general improvement of food availability in the homes.

When faced with a food crisis most households depend on their social networks of family, relations and friends to help them with food or money for food. Usually relatives working in the city help them with money for food.

The government programmes for food relief and also NGOs help farmers during a food shortage. Free food is usually given to the most vulnerable in the community such as the disabled, old and the orphans. The rest who are young and able-bodied work first and then they are given their food.

The farmers also try to cope by engaging in income generating activities such as charcoal burning, selling livestock they rear like chickens, goats or pigs; blacksmith, being employed in neighbouring big commercial farms, joining clubs as well as collecting wild fruit and mushrooms for sell. Of these activities charcoal burning is the most commonly practised because it brings in money quickly. But on the other hand the farmers know its negative environmental effects. They fear that it might lead to deforestation and less rainfall.

Of these activities the study found that men mainly did certain activities like charcoal burning, dug sand and took up blacksmiths, while women mostly did the others. But there were also those that were done by both genders. Men mostly engaged in charcoal burning. While women mostly joined women’s clubs, brewed beer and cut grass for sell. Both genders engaged in selling of second hand clothes.

In addition to gender and also age to a great extent determines in which activities the individual engaged. Young men mainly practised charcoal burning while the elderly went mainly for selling second hand clothes, *salaula.*

Some of the coping strategies in times of food shortages are the same as their alternatives to agriculture related activities, like part time work, blacksmiths and selling second hand clothes as well as charcoal burning.

Generally cash crop growing with the involvement of women has resulted in an improved food situation in the households and a better general social welfare for the members of the households. They get money to pay school fees and meet their medical fees.

Now that women were engaged in growing cash crops how is this affecting the division of tasks in the participating households in terms of work between the plot, the field, the home and also in terms of management of income earned? And how did the women's access to income in turn affect their relations with their spouses or male members of their households? These questions I attempt to answer in the next chapter.

CHAPTER 6

THE GENDERED DIVISION OF TASKS

This chapter looks at how plots at the main garden were allocated at the inception of the irrigation scheme to farmers who became participants of the scheme as well as who the main users of the plots are. It goes further to bring out the difficulties that are faced in general by both men and women as farmers when selling their produce. At the same time it tries to bring out the difference in how men and women are affected by the difficulties. It also looks at the how the division of tasks is affected in terms of work in the field, plot and home. Finally the chapter also makes an attempt to show how gender relations are effected when women of participating households have a source of revenue.

6.1 How is the allocation of plots done and who is the main user?

When farmers become members of the irrigation scheme they are allocated a piece of land from the main garden. The main garden is sub-divided into smaller sections of land referred to as plots. The main garden lies along-side the main canal that runs from the dam. There are furrows that run from the main canal taking water from the dam into the numerous plots that constitute the main garden. Other than the plots farmers have land they utilise annually to grow their crops. Usually the crops grown are consumed and the surplus is sold. This land outside the plots are here referred to as the field. Farmers have different sizes of fields that range up to about one lima.[79] A few might have land that is bigger than one lima. Normally male members of most households own these fields and it is through them that women of their households can access these fields. Otherwise women who are widowed, divorced or unmarried rely on claims to land under the control of their own relatives. One can attain this land through the village headman and for titled land from the Ministry of Lands. For the purpose of this study the focus is on plots; what is grown on them, who uses the plots mostly and what is done with the money realised from the sell of produce grown on the plots.

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[79] One lima: Small-scale farmers have small fields that normally measure approximately ¼ hectare and they call it one lima. (**one lima** = ¼ hectare)

It seems that those households who are participating in the irrigation scheme have both fields and plots. Participants of the scheme were on average allocated six (6) plots each. The plots are allocated to each household. The Dam Management Committee (DMC)[80] allocates plots to members. Though some members obtained their plots directly from the DMC, others obtained theirs through colleagues who were not using theirs and from parents and relations who were either too old to work on their plots or were deceased.

Women have access to both the field and plot through the male members of their households. The men allowed women from their homes to cultivate on some of the plots. This way the female members of a household were able to indirectly get access the plots. The reason why the plots are mainly found to be in the male members' household's name is because when the scheme was first introduced, the allocation of plots was given to the household head who were mostly men. As for women they can be household heads when they became divorced or were widowed. This key informant (number 1) explained this way:

> *…. Plots were allocated to household heads. During allocation they asked for household heads that were men. The plots were registered under the household heads that were men. There was voluntary plot giving and a deliberate policy to give top priority to widows….*

Following from the quotation above, priority was given to women who were widows to own plots. Otherwise generally they mainly access them indirectly through male household heads. For example, during the study it was found that men owned most of the plots at the main garden, but they reallocated or shared the plots between them and their spouses or other female members of their households. Two households (number 8 and number 7) explained this situation when asked: **In whose name are the plots you have registered?**

Household number 8

Husband:	*Myself the husband but my wife also cultivates on them.*
Wife:	*The plots are in my husband's name.*

Household number 7

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[80] DMC: Check Appendix B for details on the formation and functions of the DMC.

Husband: *The plots are in my name. But I acquired these plots, six (6) of them after my father died.*
Yes. We both use the field. She has no field of her own. But she plants her groundnut seeds when she gets a soft loan for seed from the club.
Wife: *We have six (6) plots registered in my husband's name.*
…and my husband has given me a small plot for nyemba[81]*, okra and groundnuts in the main field.*

Apart from wives accessing the plots indirectly, other members of households also used these plots. These were mainly those that were still dependent on the head of the home to take care of them. They still had not acquired plots or fields of their own. But when young men married, it was most likely that their parents, usually the fathers, allocated them a piece of land from their own and this sometimes included a plot from among those which the parent owned. The newly married obtained land through the male line of their families. And in this manner the plots were passed on from one generation of a household to the next. Otherwise all members in the home could use plots.

Women and girls mainly worked the plots and the men occasionally helped out. According to key informant number1in the past women usually worked on these plots mostly. But after the gender sensitisation[82] by the WIN Project (through hiring of Women for Change (WFC)[83], there has been a notable change in attitude by men in general. They now help women and girls in the garden plots. They work together in the plots. One male key informant (number 1) explained

…After the training women and men as couples come together to the garden plots. Earlier the women used to come to the plots alone. The work in the garden ... was normally done by the women and the girls. But now the work is actually shared with the men…

It seems with gender sensitisation, there is a change in attitude among the men. Even though the change is slow to come, it is now becoming evident that men help out occasionally at the plots. This was also observed during the data collection period. The day the focus group discussions were to take place at the main garden plot, women and girls were found working in the plots. But present, though in much smaller numbers, were the men working along side the women and the girls. While

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[81] Nyemba is a type of beans that is grown by the locals.
[82] Gender sensitisation: Details in Chapter 4
[83] WFC: Check for details in Chapter 4.

most of the men were digging and clearing the plots, women and girls were mostly weeding.

On these plots women mainly grow vegetables that include tomatoes, rape, cabbage, onions, beans and green vegetables. The market demand for fresh vegetables and also the need for them to be able to consume these crops at home dictate their choice of crops. Thus they choose crops that serve both as a source of revenue and also food. The two respondents below reflect this:

We choose what types of crops to grow. Mainly we plant fresh beans or green beans and tomatoes because they are easy to sell as compared to other crops. (Middle aged male, case number 13)

We choose what to plant. Normally we plant crops that we can eat and sell the surplus for extra income. For example rape, beans, and tomatoes. (Young female, case number 14)

With them being able to choose what to grow they are therefore able to have food as well as money from the sell of the surplus crop.

6.2 Gender division of labour in selling of crops

Once the produce is ready the farmers prepare to sell it. It is packed in bags in readiness to be taken to the selling points in the city markets. The women mostly do the selling. The men help especially with carrying the bags of produce from their plots to the point were they get on a bus to go to the Soweto Market to sell. One respondent said it in this way:

My husband and myself sell. My husband uses a bicycle to carry the produce to the market and I jump on vehicles to deliver to the market. (Young female, case number 20)

Few men were actually involved in selling of crops from the plots. Some did sell their produce together, but the selling was usually in such a way that the men went to sell at the city market while the women remained to sell from the plots. They sold to those retailers that came from the city to buy in bulk to re-sell in smaller amounts in the city.

Other women grew crops for sell in the plots, but neither themselves nor their spouses did the selling. Instead their children sold the produce on their behalf. These could be children who are living in the city and are better positioned to sell the produce at a good profit. Like this particular elderly woman explained

My children sell on my behalf what I grow like groundnuts. Then I send for what I want from town for example a chitenge[84]*. One of my sons-in-law has a small shop in the market were my produce is packed and sold at a good price.* (Female, elderly, case number 12)

6.3 Difficulties and Risks

Their days of selling at the city market are not without difficulties and risks. These affect both men and women to some extent similarly, but mostly differently. Their major difficulties include transportation of their crop to the selling point, the varying prices of their crops, the distance to the market as well as finding a market for their crops.

6.3.1 Transport problems

Men and women sell their vegetables in the city market. Women mostly carry on their heads unless their husbands own a bicycle or cattle so that the bags of vegetables can be put on the bicycle or ox-cart for them. The men help the women take the bags to the nearest point where they can get on the bus to the city. In the city they also sell at what they called the Tuesday Market. This is a day that farmers take their crop for sell. It is every Tuesday, hence the name Tuesday Market.

They also sell their crops to the local community in their area. Retailers from the city also come to buy in bulk from them. Their coming makes it a lot easier for the farmers to sell their crops and saves them from the problems of transporting their crop to the selling points in town.

The point where we get vehicles is far from the garden. Sometimes the vehicles do not reach this point for embarking on the vehicles. Therefore we carry on our heads and

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[84] Chitenge: It is an approximately 2-meter piece of cloth worn around the waist by women.

our men on the bicycles and move the produce to the nearest town for sell. (Middle aged female, case number 19)

Though men help, women are disadvantaged because they carry their bags of vegetable produce on their heads for long distances while the men on the other hand use bicycles.

Transporting produce is a problem for the farmers generally. As such the Dam Management Committee has thus taken it upon itself (as one of its functions) to try and arrange for transport for the farmers. This is by way of hiring a bus for them, but the farmers have to each contribute towards the total bill of the hired bus. However, sometimes the bus does not come and that means they still have to walk the long distance to the main road. Some respondents tell how transport difficulties affect their day to the market. As already told, their day begins as early as three o'clock in the morning and ends late in the evening.

We have transportation problems because sometimes the hired bus does not come. Then it means you have to carry on your head, hire a small boy to help carry and also use a bicycle to take to the main road for transport to the city market. Our day begins at zero three hours so that we reach the market at zero six hours in the morning in time to order to the marketeers. (Middle aged female, case number 4)

I go together with my wife to sell at the city market. We carry everything on our heads and on the bicycle to the main road. There is no transport to carry the things from the village plots to the main road where we hike to get to the city market. (Elderly male, case number 11)

The women thus spend a full day trying to get the produce to the market, sell it and get back home. By the time all this is done it is late in the evening and they would have had a long day.

6.3.2 Price of Crops and Distance to the Market

The price of crops determines whether or not they take their crops for sell to the city market. If the price is the same at both the local market and in the city then they do not go to the city to sell their crops. Instead they sell from the local market. The markets in the city are very far from their homes and this in it self causes difficulties for the farmers. As this elderly male respondent lamented:

The market is very far and there is no transport to the city market. (Case number 21)

They have to walk or cycle long distances to the nearest point where they can get on a bus to the city. The city itself is also far. And women are further disadvantaged because they carry their bags of produce on their heads for long distances.
It is because of such problems that they sometimes sell to the local community either from the plots or from the local market. A middle-aged woman explained this:

The market is very far. But since the cost price is the same for example last year we sold from our garden plots. But if the price is higher in town, then we transport to town. (Case number 19)

Vegetables are perishables so if the demand is low and the women are already at the market, they simply sell even at low prices so that they at least get back some of the money they put in to buy the input to grow the crops. Otherwise the crops go bad and that means they can not sell them and hence loss out completely.

6.3.3 Marketing of Crops

Farmers also said that they had marketing problems. They found it difficult to market their crops and therefore making it difficult to sell their crops. They have to find a market for their produce for themselves, but this is not easy. Consequently, as some farmers explained, they are forced to plant less of their crops despite their plots being small in size. They said they had no incentives to plant more because of the marketing problems. One informant confirmed the marketing problems the farmers faced in this way:

Finding a market is still a difficulty, but currently they take to the Tuesday Market in Kabwata, Lusaka. (Key informant number 5)

Besides sometimes they find that the market is saturated they can not sell their crops. This means finding the market full of their produce to a point were the demand for the crops are outstripped by the supply of crops. In such situations most farmers fail to sell their crops.

Added to all these problems are the risks of theft and harassment by the callboys at the markets who usually demanded that they carry the bags of crops on behalf of farmers and later demanded to be paid. These risks came out during the discussions with key informants and also during the focus group discussions. Both the men and the women's group concurred that they were harassed at the city market and also if unfortunate, they experienced thefts.

6.4 How is the money earned controlled and used?

Once the crops are sold, the farmers then knock off for the day. The money realised is taken home. From the study the indications are that while the women are usually and mostly the ones that do the selling, it is normally the men in most cases that handle the money. The explanation given by most men was that it is because they are the household heads. But in some cases the men together with their spouses handled the money together. Usually in these cases, they explained that they discussed as couples on the use of the money, but the men were the ones that had the final say.

Another aspect to this was that mostly men controlled the money that came from the sell of crops from the main field. The amount of money from here was much more than that was raised from the sell of crops in the plots. The money from the plots came in small amounts. Normally though there were discussions between spouses on the use of the money, the wife usually was the custodian of the money. She kept the money in the house acting as a bank, while the man was the final decision-maker on the use of the money.

Women sold crops, looked after the money in the house but were not normally the ones that had the final say on its use. But they could discuss the uses of the money. An example is of household number 2 below:

Husband: *My wife sells in Soweto market in Lusaka. I control the money myself as the husband.* (Elderly)

Wife: *I do the selling from the city market and sometimes I sell from here to those who come to order. We discuss and decide on the use of money realised.* (Middle aged)

The study also indicates that even the money coming from several other activities that the households were involved in was mainly under the control of men**,** especially money from activities that brought in the most cash. For example,
one young woman and her husband (household number 7) had this to say:

Husband: *We go together to sell our produce especially that we have to carry a lot of bags of produce. I handle the cash as we sell with wife. The control of money is by me I am the household head. The surplus from money from the garden plot is discussed with my wife.* (Young)

Wife: *I control the money raised from the small shop and I use it to buy chitenge, clothes for myself and the children and lotion for myself. While the money from charcoal burning my husband controlled the money. It is used for clothes for him, school uniforms for children and maize grain for eating. That is buying buckets of maize grain.* (Young)

While she had control over money they were realising from the sell of foodstuff that had been re-packed into smaller quantities, the husband controlled money from the sell of charcoal. The small shop brought in small amounts of money as compared to money from charcoal selling.

From the money obtained from the plot, its uses were usually for things that did not require a lot of money. Big items were not bought from this money. It was usually used to meet the day-to-day needs of the members of the household. If the money was to be used for anything that needed a lot of money, then the family would have to save it over a number of months.

In a few cases women were given full control and had the final say in the use of the money. Women controlled money that came in small amounts for example, vegetables from the plot, kantemba, chicken selling while men kept and controlled money that came in large amounts for example sell of crops from the main field, charcoal selling and sell of cattle. Thus notably handling of household savings was dependent on the source of the money as this young female was quoted as saying:

It depends on the source of money. For example if it is from the charcoal sells he controls the money and if it is from the sell of sugar, salt or from the garden plot produce I handle this money. (Case number 14)

The study also found another interesting aspect of how savings of income where handled in different households. While some husbands handled the money that was raised from the sell of crops that had been harvested from the main field, the money that was obtained from the sell of crops at the garden plots was handled jointly by their wives and themselves. In addition husbands gave their wives money for housekeeping when they needed it.

It was also found that some households pooled their resources together. They had what they called a common place where money was kept in the home. So they, both spouses, handled the household savings together. Still others had a different arrangement. Each member looks after his or her own money unlike the former arrangement; money was not pooled together. The money that was realised from the garden plot was what was used as their household savings. The men did not give their wives money they got from the sell of crops at the main field to use for household needs. Instead these women were given a small portion of land in the main field. This piece of land was made ready for them to grow their crops like groundnuts. These were later sold and the money was used to meet daily requirements at home. The men controlled the money from the field and this is the money that was used to purchase assets like cattle and ploughs.

However, the decision as to what use the money is to be put is usually decided upon after a discussion between the spouses. In some households, however it was found that some offspring who were considered to be adults were allowed to take part in such discussions. This was meant to cover the interests of all members in the home as well as their needs. But despite the process of discussion, sometimes conflicts arose or disagreements as to what should be done with the money. These arose because different individuals in the home had different priorities and preferences to the use of money. When such happened, it was the husbands who settled the disagreements by giving their final say. Their stand on the final say was justified by their status of being the head of the household. Some men said that sometimes they differed with heir wives over the use of money, but as husbands they had the last word on the matter. The women also confirmed this but they explained that they differed from their husbands because their husbands sometimes dictated to them on how to use money, instead of them discussing and having a joint decision.

In other households disagreements on preference to use of money did arise because the men explained that since they are the heads of the house and therefore made all the decisions. There was no room for discussion and even if discussions were held, the men made the final decision. Example of answers when asked: **do you experience**

any potential conflicts and compromises arising from individual preferences when it comes to the use of income obtained from the irrigated plot?

No, because I am the head of the house and therefore I make all the decisions. (Middle aged male respondent of household number 2)

Household number 7:

Husband: *None at all since I control the use of money from the crops sold at the fields.* (Young)

Wife: *No, because I budget for everything. Unless the money he obtains from the sell of cash crops from the main field. He decides what he wants to do with the money. I have no say on this money from the field.* (Young)

From what the couple says in the above quotation, they do not experience any conflicts due to individual preferences because they each have money that they control. While the husband controls money from crops sold from the main field, the wife controls money from crops sold from the garden plot. This way they avoid conflicts. This strategy was also found to be true for other households as this middle-aged female (household number 6) was quoted as saying:

None at all. I am left to control my own income as he controls his own income as well.

The rest of the households said that they normally discussed the use of money with their spouses.

When it came to the issue of impact on relations between husbands and wives of those who were cultivating on the plots, the study also gave some indications of such impact. Both men and women acknowledged that generally their relationships had improved. But the improvement was explained differently by different individuals in the same households. There was also a difference in how the men and the women explained the change in their relationships.

Some men said that they considered money from the plots to be extra income and so its use was discussed with their wives. Others found that this meant a better relationship with spouses and everyone was generally happy because there is enough food for everyone in the home. For other it meant the relations with their wives was better because they were now able to share the responsibilities of providing for their homes. While others did not see much of an impact because they, men as heads of their homes, handled all monies in the home. So that they could avoid fights and quarrels over money in their homes.

Women on the other hand gave explanations somewhat different from the men. From their point of view, yes, the money from the plots had on the whole led to improved relationship with their male counterparts. They advanced different reasons for this. For some the frequent quarrels over money for food had reduced. This middle-aged female (household number 6) explained below:

> *Now that I have a source of income, we have reduced on the frequency of quarrels over money for food. At times husbands can be stingy with their money. But if you have an income you do not ask for money. You buy from your income and there are no questions asked as to where the food has come from because husbands know that you have a source of income.*

Another aspect that was brought out in the study was that there was an attitude change from the men towards the women. The women explained that their relations with their husbands in their homes had changed. They now were given more respect and treated with a little more respect as compared to the time before they had an income. They were also allowed to take part in the discussion regarding decisions to be made in the home. Their suggestions were recognised and taken abound. An example is of what this young female (household number 7) said:

Yes, because when you have income of your own you are given much more respect because you have money. And also because it is realised that you are now able to help at home.

Yes I am now allowed to help in the decision-making and also my bargaining power is increased. For example if I want to do something of my own, I am allowed. Unlike before because now I have a source of money.

Other women that were interviewed echoed this. These gave examples of how their relations had changed for the better. One of them said that she was now allowed to decide on what to buy what to grow and also on other housekeeping issues. Their bargaining power had improved and also there was more leeway for them to participate in decision making. Discussions were now held before major decisions were made. The majority were happy with the impact of income in their relations and their lives in general. Both men and women appreciated the change.

Since women said that they used their income mainly for food in their homes, a question was asked as to whether then they had experienced any changes in the availability of food depending on who was handling the household income. The responses obtained in the study indicates that there was a difference depending on whether it was the man or the women who handled money for food. Both genders agreed that on the whole women bought more food than the men did. The reasons given for these were various.

The men explained that usually they did not buy enough food unlike their wives who tended to buy much more than them. Thus households experienced change in the availability of food depending on who was handling money and food issues. The men also explained that this difference was due to the fact that women were considered to be responsible for the kitchen, in particular preparation of meals. It was their role to ensure that the home had adequate food, while the men made sure that they gave their spouses enough money to buy food or harvested enough crops for home consumption. It is also because of this role that some women said that in their homes, they were the ones that had the responsibility of buying food. Their spouses did not buy food. Instead they gave them housekeeping money to buy food.

The study also reviewed that the difference in availability of food depending on who was in control of buying food was that in some households women said that when they left men to buy food men would tend to buy less because they also spent the money on other things such as beer, as one respondent said. The reasons given by most women included that before they had plots it was difficult to have food because they had to wait for the crop in the main field to be harvested and sold. Then when they had money they would have food, but sometimes the men would tell them there was no money. But now, because they had their own source of income they had a control on food because they sold their plot produce and bought food.

Money from the plots in other homes was considered to be extra income by some women. They had apart from the plot, a small portion of the main field where they grew their groundnuts and pumpkin leaves for sell. The money was theirs.

One middle-aged woman (household number 6) explained this difference this way:

Yes, there is a difference because I use my money to buy food. I do not have to keep asking for money for food. Because at home I was told that there was no money for food. For example money for relish like rape.

The position of women in the home has changed. They were enable to make suggestions, take part in decision making, had been empowered to buy food whenever they wanted and their dependency on men for finances had decreased. They had gained some degree of financial independence.

6.5 Are there changes in the division of tasks between genders?

Other than trying to find out what the impact was in terms of relations between genders of participating households, the study also tried to find out from the interviewees if there was any changes in the division or allocation of tasks since their participation in the irrigation scheme. This is taking into account the extra plots in the main garden other than the main field that need to be worked on by family members.

The responses that were obtained were various, showing that various households had different coping strategies or ways to allocate their resources. While some did the tasks together regardless of the gender of the individual, most of them had divided the tasks between genders and also between the adults and the children. For some households women and girls did certain tasks while men and boys did other tasks. For example, the more strenuous tasks like cutting trees was done by the latter while weeding which is tedious was mostly done by the former.

The gender division of labour was there even for those that did most of the work together, although sometimes the work was not exactly gender specific. For the group of respondents that divided their work between the genders, it was found that household chores and gardening activities were mostly done by women and girls. The garden activities included for women weeding, harvesting, planting and fertiliser application, while men mostly prepared the land, helped with fertiliser application as well as harvesting.

This set up was, however, changing in the face of their participation in the scheme. There was an extra land to be worked on. How then were they managing it? Were the tasks reallocated? Where there any changes? The respondents during the study gave responses to these questions. Generally, they seemed to agree that yes, there was a change going on. The extent to which this change is mostly due to irrigation intervention is not easy to say. But nevertheless change is taking place.

The men acknowledged that unlike in the past, currently their gender roles had changed somewhat. They did some activities that were previously done by women, such as helping women draw water for domestic use and fetch fire wood. Women also engaged in dominantly male activities like charcoal burning and sometimes holding the plough during land preparation. The answers below from respondents of different households indicate examples of this change.

Yes, I help my wife to draw water and carry firewood while she also helps me to cut firewood. The boys and girls help us in all the activities. (Young male, household number 4)

Yes, now I am able to do some tasks, which I never used to do in the past. My wife also now is able to do some tasks, which she never used to do like charcoal burning. (Middle aged male, household number 5)

Yes, my husband now helps me in some activities. (Young female, household number 11)

Yes, my wife is able to do some activities, which were considered to be for men like charcoal burning and handling the plough. (Elderly male, household number 12)

The views expressed by the different household members were confirmed by the key informants that were also posed with the question on what they thought had been the impact of this intervention on intra household relations. They presented different views. The general response from all key informants had been that it was difficult to tell whether such an effect had taken place because like key informant number 5 said getting a feedback on such issues was difficult. They had no way of knowing and therefore could not give definite answers to this question.

Nevertheless they explained what they could observe as happening among participating households. Key informant number 1 explained that there were definite changes taking place. Dialogue between spouses had improved in the homes. This was especially after the training that both men and women attended. Now they could be seen going to the garden plots together as couples. Before the women used to go to the plots alone. The women and the girls normally mostly did the work there. But now the work was actually shared with the men.

The second key informant added that the gender sensitisation by Women for Change (WFC) had also resulted in a positive change in attitudes for both genders. This led to notable changes in the community. According to him the impact on intra household relations between genders has been positive. It has in the words of key informant number 3:

> *… opened up dialogue and women come together with their spouses for the meetings unlike before. If one does not attend then the other does. Previously only the men attended the meetings. Women shunned the meetings and if they did attend, they did not talk or actively participate. Because generally in a group of people women are taken not to be respectful if they talked in a meeting. Therefore sometimes they could not get their points taken seriously. This is because of customs and traditions in the area. But because of gender sensitisation through WC this was changing. The situation has improved with a positive change in attitude.* (Young male)

Like key informant number 1, key informant number 3 sees the impact on relations between men and women as being reflected in the improved dialogue between the couples. This has manifested itself in the way men come to public meeting with their wives. Also in the sharing or taking part of men in garden activities with the women unlike in the past. In the past mostly men attended public meetings and women were normally the ones that went to the garden plots with the children.

For key informant number 2 and number 4 they both pointed to the obvious financial benefit of the garden plots after the sell of the crops. But for key informant number 4, like number 5, said that to ascertain for sure the impact on relations was very difficult. He did, however, say that women laboured at the plots and sold their produce, but it was not known whether they gave the money over to their spouses. He put his explanation like this:

> *Women labour at the plots but normally they report what they have sold to their husband. It is not known whether the cash is handed over to their spouses.*

The money was nevertheless believed to be used to the benefit of the whole family according to key informant number 2 who further elaborated that women had found something to do. They were in charge of something. They had a source of revenue, which they had control over and just informed their spouses to what use they had put the money.

The fifth key informant could not say what she thought the impact on intra household relations was. The reason she gave was that it was difficult to tell if any such impacts were actually taking place because feedback on such issues was difficult. Despite this difficulty the general feeling was that the effect on intra household relations had been positive so far. And the women were better positioned in their community both socially and economically. This was reflected during the focus group discussions in this study that were held with both men and women (in separate groups).

6.6 Conclusion

Participating households were at the inception of the irrigation scheme allocated 6 plots each. These were allocated to household heads that were mostly men. There was a deliberate policy to give plots to widows, but as it turned out, is something to put in place a policy and quite another to actually implement it. It seems that despite this policy, the plots were still mainly being given to men.

While men own most of the plots, with a few plots being owned by women, the main users of the plots are women. The women mostly grow vegetables. These are perishables and therefore have to be sold as soon as they are ready. But with the distance to the selling points in the city and difficulties associated with transporting their produce, these crops are sometimes sold in the local market. Consequently they fetch less money as compared to when they are sold in the city market.

Farmers generally, both men and women, face difficulties of transporting their crops to the selling points. But women are much more disadvantaged because they carry the produce on their heads in most cases, while the men own bicycles and use them to carry their crops.

Women with the help of men mostly sell the crops. The men seem to be the main decision-makers with regard to the use of money in most cases. However, since the money comes in small amounts, men normally give full control of this income to women. They use the money to buy food and to meet the day-to-day needs in the home. Men instead control money from the field that comes in larger amounts. The same is true of money coming from other sources that bring in larger amounts. For example men control charcoal sells while women control pre-packed groceries sells. The former brings in more money as compared to the later. Hence men controlled ‘big money’ while women were left to control ‘small money’. On the other hand, women have attained a degree of financial independence from their husbands because they had control of their small money.

When it comes to household savings, there are different arrangements for different households. While some households pooled their resources together, in other households the woman controls her own money while the man controls his own money. They use their monies independently of each other. Still others discuss together as spouses as to what use the money should be put. In these arrangements the woman kept the money from the sell of her vegetables, but the husband had a say on its use.

Hence different households, being one unit did not necessarily mean that they used their resources as one unit, but rather each individual in the unit controlled their own resources. Different units had different arrangements on resource management.

When it came to the actual uses of the money, there was a difference between women and men. While they both generally gave first priority to buying of food, there was a difference in the availability of food depending on who was handling the money. Women bought much more food compared to men because men, also tended to put the money to other uses more often than women.

So how did this economic situation for women affect their relations with their spouses? Generally, the effect, though difficult to ascertain for sure, affected their relations in a positive sense. There were less fights over finances. With a bit of money women had gained a better social and economic standing and also a better fall back position. Their bargaining power has equally improved because they could now negotiate and also take part indecision making process in the home. Hence they had earned some respect because they were now recognised as people that could contribute towards the betterment of the family welfare in the home.

CHAPTER 7

DISCUSSION OF FINDINGS

This chapter gives a summary discussion of major findings of the study. It highlights issues that respondents kept mentioning. These are referred to as emerging issues and are hereby presented in a detailed discussion.

7.1 Major findings

WIN is among many of a number of NGOs that are working in Chipapa area. Its impact has been profound as is evident from the changes that are taking place. Notably the decision-making process of the Dam Management Committee (DMC) for the scheme includes women unlike before. This in itself implies that some of the needs of women are met particularly by direct access to plots in their own right, as farmers as opposed to previous years were plots were allocated to men because they were household heads and therefore it was assumed that women would automatically benefit being members of the same households as the men. But this assumption is false as men allocated or lent their plots to women members of their households at their discretion. Therefore there was no guarantee that giving male household heads plots implied women gained access to the plots. In fact 'in most irrigation schemes, plot allocation policies are based on the assumption that men are the main farmers, decision-makers and providers. Plots are allocated to male-headed households only because it is thought that women would benefit through their husbands (or other male relatives).'[85] Its such assumptions that led to allocation of plots, even, in Chipapa scheme, to men as they were considered as the heads of households. This was however, to the detriment of women because it meant accessing the plots was mainly entirely to the men in their households. However, with WIN, this policy is being redressed through the DMC, which is trying to see to it that women also get given plots in their own rights as farmers. This is seeing to it that everyone regardless of whether they were a woman or man were considered for plot allocation in their own individual rights as farmers. Hence the improvement of women farmers' socio-

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[85] Zwarteveen, M. *A Plot of One's Own: Gender Relations and Irrigated Land allocation Policies in Burkina Faso* (1997) p1

economic position and financial stand is improved by them having plots where they can grow cash crops for sell and hence meet all other needs. But first they mainly needed to have land as the main resource whether they are married, divorced, widowed or unmarried. This way women will benefit from the scheme far much more because they will have plots of their own. This will mean that the problem of land insecurity is solved in the case of them losing those plots upon divorce from their husbands or upon being widowed. For ordinarily 'Zambian women do not own land I their own rights. They only acquire the use of land through marriage, relatives or village headmen.'[86]

For the married ones they use land allocated to their husbands while widows and divorces 'typically have no further claim on land obtained thorough a husband and must rely on claims to land under the control of their own relatives.'[87] Usually these are male members of the households. As for the unmarried women they are disadvantaged because they depend on their relatives to be able to use land.[88] Therefore women were given plots at the scheme the problem of indirect accessibility of land and land insecurity due to reliance on male controlling and allocating land to their discretion to women would be done away with. Hence women need to have use and ownership rights to land for this is a fundamental right that could lessen their insecurity of losing land upon widowhood, divorce or when husbands decide to marry additional wives (polygyny).

With the help of WIN, the Chipapa irrigation scheme has been resuscitated and this means that production that had been off for over a decade is back in track. This means that food security for participating households has been secured but not as satisfactory as the participants would have liked to. This means the problem of food shortages or food insufficiency can then be dealt with because the garden has becomes the main source of food and income for the participating households.

Though the food situation is far much better, the cost of growing cash crops has led to an increased workload for both men and women. But more so for women who work longer hours as compared to their men. This is due to the fact that women work both the fields and the garden and that they, like other rural African women are 'primarily

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[86] Bryne, Bridget (1994) p14.
[87] Bryne, B. Op. Cit. p14
[88] Ibid. p14

responsible for producing food for their families' consumption.'[89] Cash cropping has women putting an hour or two more and thereby reducing their time for relaxing as compared to men who only go there to help out, but generally have work less hours compared to women. This point has also been emphasised by Skjønsberg who put it this way 'in the planting, weeding and harvesting season it is evident that women, as well as men, are very busy, working from early morning until nightfall, but women work much more intensively than the men. They know that if the agricultural activities are not carried out in time, the net result may be empty granaries and hunger at the end of the season… the fear of not being able to replenish the family granaries at the end of the harvest season is real for most farmers on the African continent, and more so for women whose obligation it is to feed their families.'[90] That is probably why women work harder to ensure that their gardens have food. This also explains why men when asked about food security said that they would leave the question to be answered by women indicating that food provision and preparation is an important role played by women.

Tied to their important role of food provision and preparation is their role to provide and meet other needs such as cloths, school fees and other social needs. These needs women are able to meet by selling their excess cash crop. Otherwise when faced with a food crisis like in the years of drought they relay on men to get paid jobs, their social network of family and friends as well as their innovation or creativity in money making ventures. For example beer brewing. It is 'one of the few means a women has to make money quickly and it means most women make use of at least a few times during the year, provided they have the strength and the maize and millet.'[91] Otherwise cash cropping had not affected food crop production, on the contrary it had led to an improvement in the provision of food in households.

Cash cropping has been advantageous to the farmers especially women in that it has enabled them to have a source of income. This has had an effect on gender relations in terms of power relations between men and women. For women they have gained bargaining power and are able to take part in decision making process. The income gained was found to be managed in three different ways. That is both husband and wife pooled their resources together and in this case they discussed on the use of the

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[89] Meekeer, J. et al. (1997) p42

[90] Skjønsberg. E. (1989) p231

[91] Skjønsberg, E. Op. Cit. p100

money and made decisions jointly. Other couples kept and controlled and used their money independent of each other. The husbands kept their money from the fields themselves and controlled and used it as they saw fit while their wives also did the same with money from the plots. And others still pooled their money together but their husbands controlled the use of the money while the wife looked after it. These types of money management can be found among the five money management systems identified by Pahl in studies of European families; the female whole wage system, the male whole wage system, housekeeping allowance system, joint pooling system and the independent management system.[92] The female wage system is one in which husbands hand over the whole of their wage packet except for their personal spending money and leave the responsibility of paying bills and budgeting to make ends meet to their wives.[93] 'In the male whole-wage system, however, husbands have sole responsibility of managing all household finances.'[94] While in the housekeeping allowance system, husbands give a fixed amount of money to their wives for household expenditure and keep the rest of the money that is under his control. For the pooling system, it involves in principle both partners having access to all or nearly all household money and both manage the money in the pool. As for the independent system both partners have independent incomes and neither have access to all the household money.[95]And of these types of financial management are three that could be identified with the findings of the study namely housekeeping allowance, joint pooling and independent management systems. In these are reflected issues of power and control over resources in the household. Women manage money and control is more likely a male prerogative.[96]

Further men control 'big money' from the fields and women are left to control and use 'small money' from the garden or grocery shops. The implication of this is that while women might be seen to be given an opportunity to have control over money, it is one that comes in small amounts and can barely meet most of the family needs and thus managing this kind of 'small money' can be said that 'the task is likely to be a chore or a burden rather than a source of power.'[97] While 'husbands, on the other hand, are more likely to manage money when income is high enough to allow for

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[92] Roman, C. and Volger, C. (1999) p425
[93] Volger, C. and Pahl, J. (1999) p132
[94] Ibid. p133
[95] Ibid. p133
[96] Ibid. p425

discretionary spending and there are real decisions to be made about how to spend money.'[98] The same can be said to true in the case of Chipapa because men were reportedly in control of big money from the fields and women in control of small money from the garden, but men had 'big money' for use at their discretion. The big money is related to power, control and major decision making in households unlike the small money from gardens which is hardly adequate to meet basic daily needs. This is instead seen as supplementary money to meet the daily necessities in the household. Hence money or resources are a source of power and control and therefore how they are managed can show whether there is gender equality in accessing such resources in the household.

7.2 Emerging Issues

During the course of the study some interesting issues came up. These were not incidentally covered in detail because they were not part of the objectives the study was trying to accomplish. Nevertheless, it was found that most respondents though pleased that the dam was working and they were gardening again, gave some concern that are referred to here as emerging issues. These include the size of the garden plots, the need for certain components to be included within the WIN Project, the need for training in certain areas and issues of finding a ready market for their produce.

7.2.1 The size of the plots

They reportedly said that they would like the main garden to be expanded so that they could have more plots. This way they could increase their crop and hence their profit margins. When asked if they had increased the number of plots allocated to them from the usual 6, they explained that this was difficult to do because almost all the plots had been allocated. As this respondent explained below;

… there is no expansion of the available garden plots. All have been taken. That is the one that is within the fence. Unless an extension is done outside the fence or beyond the fence of the main garden. (Middle aged male, case number 12)

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[97] Ibid. 426

[98] Ibid. p426

They further explained that to have more plots they borrowed from some of their colleagues who were not using theirs for various reasons. Key informant number 4 gave an explanation as to why the main garden had not been extended.

The Dam is essentially meant to service 10 hectare. Currently, about 90 percent are being utilised. The construction of the Dam i.e. the canals are for the same hectarage and nothing more. In times of good rains the dam runs the whole dry period but water runs out in times of dry spells. This means that the capacity can not be exaggerated more that this.

As such the expansion of the main garden would affect the availability of water in the dam. Water in the dam could run out earlier than usual because the dam has no capacity for more than 10 hectares of land to be watered. Thus the dam has no capacity to accommodate an expansion of the main garden. Though respondents acknowledged this difficulty with the water holding capacity of the dam, they still expressed the need for more plots because they found them to be small. This concern of the farmers was equally echoed by key informant number 1 who went further to explain what the DMC was trying to come up with a workable solution to the problem of the small sizes of the plots. He explained below:

Members in the garden are not having adequate land. The plots are too small in size for them to plant surplus for sell. Therefore they either plant everything for sell or they take everything home for food. This compromises the household food security at home. Usually fifty percent is sold and fifty percent is for home use. But the income realise is too little to impact on their needs….. currently the committee is looking at the problem of small plots. So the committee is planning to go into production of high value crops for example herbs and spices like garlic and ginger. So that the money realised from the small plots is increased so that if there is a shortage of food, therefore people should be able to purchase food.

Therefore the farmers saw the size of the plot as a limitation itself. They could not grow as much of the cash crop as they could have liked to.

7.2.2 Environmental impact

One of the other issues that came up prominently from the study is the impact of fertiliser and chemical use on the immediate environment. Most respondents who said that previously they used cattle as a source of manure to make the soil more fertile pointed this out. They got the cow dung from their cattle. It was cheap and readily available, but since they lost most of their cattle due to disease, they were now using fertiliser. Fertiliser they said was expensive to purchase, but that they needed it to grow their crops. They feared that its application affected the soil in that it led to poor soils. Chemical sprays they were using to kill pests also were feared to have the same effect on soil as the fertiliser. This concern was echoed by key informant number 4 who said that fertiliser destroys and leaches the soils and therefore there has been promotion of conservation farming to try and reduce the use of fertiliser.

Another environmental impact was an activity that most men are engaged in either as an alternative to crop production or as a coping strategy during a food crisis is charcoal burning. Farmers expressed fears that this could eventually lead to deforestation and hence less rainfall. As such they expressed relief that they could be engaged in gardening full time. Because then they reduced the amount of time spent in charcoal burning activities. This sentiment was echoed by one male discussant during the focus group discussions:

> *Because of gardening we are slowly stopping charcoal burning because we also fear deforestation which might lead to lack of rain.*

Their involvement in gardening was seen as an alternative to charcoal burning as a means to raise money for their needs.

7.2.3 WIN Project

7.2.3.1 Diversification of its Programme: With regard to the WIN project farmers, both men and women, and key informants alike, said that WIN Project should incorporate certain other new components as part of its programme. The components that wanted to see as part of WIN Project activities were fish farming, bee-keeping and small ruminants. They also said that a credit facility by WIN could also help farmers with the difficulties of acquiring agricultural inputs like seed and in addition, training in on-farm food formulation so that farmers could be able to make feed from their locally available resources.

7.2.3.2 Benefits of WIN: During data collection the questions that were supposed to be asked were;

i. Would you say your participation in the scheme has empowered you as a community?
ii. And; what do you understand by empowerment?

These two questions were not asked in the group discussions because translating the empowerment concept into the local language became a problem. Instead they were replaced by a question on the benefits of the project.

While both men and women agreed that the immediate benefit was a source of income from the produce in the gardens, the men said they were yet to see the benefits of the project. They were however happy with the project because they were able to water their garden plots for the better part of the year. They further explained that they could see that their area could develop because of the project.

Women on the other side only cited one benefit, being able to plant their own crops for sell thereby earning an income. The income helped them in many ways.

Participants acknowledged that the project gave them the immediate benefit of income, but they were yet to see the benefits in the longer run.

The production of crops at the plots meant a better availability of food for the participating households. They could partly eat and partly sell the crop at the same time. They could also buy more food from their income. Thus a stable availability of food ahs improved their food security in general this in turn has meant better nutrition and health for everyone.

7.2.4 Market for their crops

Both men and women farmers also said that they still had problems with finding a steady market for their both crops despite them having a *Tuesday Market*[99]. As a result, as some of them said, they did not have incentives to grow a lot of cash crops because finding a market for their crops proved to be somewhat difficult. This problem was also raised by key informant number 5 who said that finding a market was still difficult for the farmers.

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[99] Tuesday Market: Every Tuesday farmers in go to specific areas to sell their crops to the people in town.

The DMC has thus taken it upon itself to try and organise the production of crops among the farmers so that finding a market for everyone’s crops becomes easier. The respondent below explains how the DMC is trying to secure a market for crops grown at the plots.

The committee has been encouraging us to plant certain crops like tomatoes or rape, which have an easy market. Other crops like beans (dry beans like kablati) were discouraged because of difficulty in selling and the seed is expensive to buy and hence most of us can not afford to buy it. (Young female, case number 19)

And as a community they sat down to discuss on the best crops for everyone to plant. For example if they could choose to plant carrots, tomatoes and onions because the selling of crops in bulk was a lot easier than if each individual farmer planted a different crop from the rest and each one tried to sell their crops. This way the could secure a market for their produce.

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CHARACTERISTICS OF RESPONDENTS

Case Numbers

The study had twenty-one- (21) respondents that it referred to as cases. These were from twelve- (12) households. The last three- (3) households only had one respondent who was interviewed because the other one was not available. Attempts were made to interview the other unavailable respondents in these households, but to no avail. So for these 3 households only one member either man or woman was interviewed.

Gender

The total number of respondents interviewed from twelve (12) households was twenty-one (21). There were ten (10) men and eleven (11) women. There were more women interviewed because from 3 households only one spouse was available at the time of the interview. In two (2) of these households only women were available and in one (1) only the man was available.

Age

The age ranged from the twenty's (20s) to above sixty (60) years of age. The youngest being a twenty-two (22) year old female and the eldest being a sixty-eight (68) year old male. The majority, however, were between the mid twenty's to the late forties.

Marital Status

All respondents were married. None were divorced, separated or widowed.

These were all couples from monogamous marriages. None were from a polygamous marriage and also there were no respondents from female-headed households. This may have been because the locals arranged the interviews and the researcher had no control over the actual selection of the respondents. Therefore there might have been a deliberate selection of only male-headed households and only of monogamous marriage.

A possible explanation that this might be a reflection of the norms in that society. Considering that the majority is Christians, polygamous marriages may not exactly be appreciated here, but culturally they are accepted (Opinion of the researcher).

Educational Attainment

All twenty-one (21) respondents have acquired minimum basic education. Of these thirteen- (13) went to primary school, seven- (7) to secondary school and only one has been to college. Actually the one that has been to college is a retired civil servant who is now farming.

Household Size

These varied between households with the smallest being two- (2) members and the largest having sixteen- (16) members. But the household with only two members was the only one and the rest had at minimum five- (5) members. Small households are rare.

Household Composition

Almost all households had children of age five- (5) and below, six- (6) to eighteen- (18) and adults of over eighteen-(18) years. The members included the extended family members, nephews, nieces, grand children and other relations. It is rare to find a nuclear family set up.

Focus Group Discussions (FGD)

The focus groups of both men and women were generally comprised of people aged between their mid twenties to their late sixties. It was a combination of the old and the young. A few of them were widowed and the majority was married. None of them had been part of the household respondents. The two groups comprised of eight (8) men and nine (9) women, a total of seventeen (17) respondents. There was supposed to be a third FGD composed of both men and women, but this was unable to take place because the women were too shy to talk in the presence of their men folk. Thus only two FGD were conducted.

Key Informants

Five (5) key informants were interviewed. These comprised of one (1) member from the National WIN team; two (2) extension officers one (1) from the Ministry of Agriculture and Co-operatives (MACO) and the other from the Ministry of Community Development and Social Services (MCDSS); one (1) District WIN team member in MACO and one community member from within Chipapa, who is also a member of the Dam Management Committee (DMC).

Note:

Household Composition: Unfortunately, when collecting data on the households, we did not ask for the exact ages of other members of the households. We only obtained the age range, but for the interviewees, for both male and female (couples) we obtained the exact ages.

The interviewees all turned out to be married couples and each of these per household was talked to. That is both the husband and the wife was interviewed. The presentation of the findings given therein of the study is grouped in two; the men’s responses and that of the women. The analysis was done comparing these two groups of responses, but with a special focus on women. The study also tried to do comparisons between households.

DAM MANAGEMENT COMMITTEE (DMC)

The participants of the scheme have put in place what they call a Dam Management Committee (DMC). Its objectives are to address the issues of irrigation and water management with a view to improve production and marketing of produce[100]. This committee also takes care of all other issues related to the smooth running of the scheme.

There are households in Chipapa areas that are not participants of the scheme. Therefore these do not sit on the management committee nor are they part of the general membership of the scheme.

The DMC seems to be dominated by male membership especially the previous one. They held all the positions in the DMC. While women on the other hand, were either general members of the DMC or not members at all. They left leadership and membership to the men. None of the women interviewed held a position in the DMC.

However, after the rehabilitation of the dam, the DMC composition was changed to include women in leadership positions and to encourage them to be members so that their interests could equally be addressed. Previously the DMC had only men and no women. Women were part of the general membership only.

The DMC comprises of a chairperson, vice chairperson, secretary, vice secretary, treasurer and two committee members[101]. Currently the chairperson is a woman and the secretary is a man. Since WIN brought in leadership training through the WC, there has been a great change in attitude. The training included gender sensitisation that has resulted in attitude change. The change in attitude is reflected in the change of composition in the leadership of the scheme. Women are now part of the DMC that was previously male dominated. Membership in the DMC of women has meant that their needs are also meant. As one of the respondents explained that women are encouraged to participate in the process of decision making in the committee. The DMC gives first priority for the use of water to women so that they can be released early from their garden work to do other household chore. This means that there is recognition of the multiple roles that women play, productive and reproductive.

The DMC has sub-committees, the maintenance and the Levy sub-committees. Through these sub-committees it is able to serve the needs of its participants. It is also

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[100] Ndulu L. *Participatory Constraints Analysis* (June 2001) p6

[101] Ndulu L. Op. Cit. p6

there to facilitate the activities that the members want to see done. The functions of the DMC include water regulation to ensure that all gardeners get their plots watered; collecting the water levy and the bed levy; allocating plots and; ensuring that the canal is kept clear of mud and debris to avoid blocking water coming from the dam to the main garden.

Other than having these sub-committees the DMC has ensured that the roles of its members have been well defined to ensure the smooth running of the scheme's activities.

There was no specific committee within the DMC that has been put in place to specifically meet the needs of women because as some respondents answered when a question was asked about whether there was an exclusive committee for women to meet their specific needs.

The current dam committee takes care of both the needs of women and men. (Female middle aged)

Not specifically for women, but the main committee looks after the affairs of women. (Female, middle aged)

However, there are women's clubs. Though referred to as women's clubs, their membership includes men. Women make the majority of the membership. The clubs are involved in income generating activities like growing groundnuts for sell. The money realised is saved so that it can later be used to register the clubs. Once registered, the clubs can then be able to obtain a loan on behalf of its members. Other than generation of money, the clubs also teach its membership how to prepare food and how to apply fertiliser and chemicals to their crops.

OTHER NGOS WORKING IN CHIPAPA AREA

Chipapa has, apart from WIN, a number of other NGOs working in it's midst. These are Riverside and the Programme Against Malnutrition (PAM). These are active in the area of combating food insecurity among the rural populace.

Riverside

This is a Non-Governmental Organisation (NGO) that is mostly supported by the USAID. It is a training institute for farmers and mostly supports training in horticulture.

Objectives

Its main objective is to assist the vulnerable acquire knowledge so that they become self-reliant.

Target group, Area of operation

It targets mostly school leavers who can not afford other higher institute of learning. Its participants are mostly drawn from Mazabuka, Kafue, Namwala, Itezi-tezi and Mumbwa.

Activities and Impact

It gives relief food as an agent for the WFP and it also gives training to farmers in conservation farming. Riverside is according to one of the key informants, the main source of food relief in this area. It distributes food relief to each household. Each household is given a food pack that consists of beans, about 10 kg and grain, about 25kg. The food pack is distributed on a monthly basis.

The Adventist Development and Relief Agency (ADRA) contracted Riverside for training of 1000 lead farmers who in turn had to training 49 per lead farmer in conservation farming. The training it gives to framers is a participatory kind of training and it also gives some incentives to those who practice their teaching in kind like bags of maize.

The impact is great as most people adopt their training of conservation training and over a 1000 farmers have good food security after partial droughts of which some occurred in their areas of Riverside's area of operation.

Programme Against Malnutrition (PAM)

PAM was established to respond to the urgent need to combat the droughts of the early 1990s in Zambia. It was established in 1993[102] as an umbrella Non-governmental Organisation to be the co-ordinating agent for food relief distribution at the national level.

Objectives

Its objective is to make contributions to the national poverty reduction strategy through improved food security, health and nutrition.

Target group and Area of operation

It targets rural small-scale farmers cultivating up to about three hectares of land and gives priority to female-headed households.

PAM facilitates the delivery of humanitarian food assistance to catchment areas it has identified. This is in areas that are most severely drought-affected. In order to ensure the delivery of relief food it works in conjunction with other co-operating partners that include the donor community, non-governmental organisations and the government.

Approach and Impact

PAM's work programme has evolved to encompass an integrated approach to drought recovery and rehabilitation through implementation of the emergency seed and fertiliser distribution programme. These are complementary activities to the traditional drought relief food delivery programme.[103] The objectives of the seed and fertiliser programme are to contribute to the rehabilitation of the target rural farmers whose productive capacity had been eroded by recurrent drought through he combined provision of drought resistant crops, legumes, and cash crop seeds. The aim of the programme is to consolidate crop diversification, stabilise production as well as

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[102] Banda, G.P et al *An Assessment of the 1995/6 Programme Against Malnutrition (PAM) Drought Food Relief Programme* World Bank Social Recovery Project, Lusaka, 1997 p24

[103] Banda G:P:A et al, Op Cit. p24

promote household and national food security. Some of the programmes that PAM is implementing in Chipapa are;

Seed Multiplication

This is a component of PAM that is working in Chipapa promoting seed multiplication where it is working with a number of women clubs. Some of the clubs are Lima with 14 members, Tiyeseko with 25 members and Kaliagile with 8 members. Kaliagile also has 4 male members. They grow seed for sale to other local farmers.

Crop Diversification

The crop diversification component is dealing with about 50 farmers with more women than men. The programme aims to promote food security in case of drought while promoting income generation hence farmers grow one food crop like maize, one cash crop like groundnuts and one legume like cowpeas. Farmers are also given what are called soft loans that they repay either in cash or in kind at the ruling wholesale prices.

PAM Food Security Pack

This programme target vulnerable but viable farmers. The pack given to farmers in the programme comprises diversified inputs that include fertiliser, agricultural lime, seed and technologies for increased and sustainable food production and income generation. It is a highly subsidised programme. Farmers are usually given bags of fertiliser and seed. They are expected to pay back in the form of maize grain. The repayment is such that for the 2 bags of fertiliser the farmer is given, he/she pays back a 50 kilograms bag of maize grain and for the 5 kilograms of seed they are given they pay back a 20 kilograms bag of seed. PAM stores the maize. It is later sold to the farmers when a food crisis occurs in the area.

Section A: Background Information

1. Age:………………

2. Gender

a) F

b) M

3. Marital Status

a) Single

b) Married

c) Divorced

d) Separated

e) Widow/Widower

4. Educational Attainment

a) Primary

b) Secondary

c) Tertiary

d) None

e) Other

5. Household size:……………….

6. Household Composition

a) Under 5 years: F…………
M:………..

b) 5 years to 18years: F:………..
M:……….

c) Over 18 years: F:…………..
M:………….

Section B: Socio-economic Impact and Accessibility to Land for Women

7. What kind of training do you receive on how to maintain irrigated agriculture?
8. Are you a member of a Water Use Association (WUA) or Dam Committee (DC)?
9. Have you formed an exclusive WUA/DC for women to meet your specific needs?
10. Has irrigated agriculture affected your work schedule in any way? If so how has it affected it?
11. Whose name is the irrigation scheme plot registered under?
12. Do you compete for water with domestic animals especially in the dry season?
13. How has cash crop growing affected you (financially)?
14. Describe your farming calendar i.e activities per month in a year?
15. Who decides as to how much time is allocated for irrigated plot or the rain-fed plot?
16. a) What other income generating activities are you involved in?

b) Now that you have a source of income, how has this affected/impacted your relation with your spouse /male household member and other members of the household?

17. How is the money obtained from this activities controlled and used?
18. How is your labour reallocated when the irrigated plot is increased?
19. How did you acquire land?
    a) Garden
    b) Main field How has your cultivation practices changed since your participation in the irrigation scheme?
20. Have your production needs been met under this irrigation scheme?
21. When the produce is ready, who does the selling?
    a) Garden

    b) Main field
22. What have you been able to achieve or acquire since you started working on the irrigated plot e.g. schooling, buying of assets?

Section C: Control and Expenditure of Income Earned

23. Do you experience any potential conflicts and compromises arising from individual preferences?
24. Do you experience any changes in the availability of food in the home depending on who is handling the income?
25. Who handles the household savings?

Section D: Gender Analysis

26. What activities are done by women, men, boys and girls; and what activities are done together?
27. Does this mean you can now be given more leeway to participate in decision-making in the household?
28. How much do you make on average in a month?

Section E: Household food security (HFS), productivity and alternatives to agricultural activities

29. What assets do you have?
30. Are the assets you own easy to liquidate in case of a food crisis? Which ones **do** you sell in times of a food crisis?
31. What are your sources of income (number of income generating activities)?
32. What is the tendency or propensity to acquire food among household members as opposed to buying other items?
33. What do you grow on your land mainly?
    a) Garden:
    b) Main field: Are you engaged in
    a) Crop diversification?
    b) Inter cropping of traditional crops with the cash crops?
34. What is a good diet to you?
35. Is your diet any better now as compared to before you a participant of this scheme?

36. Have you increased the types of crops you grow?
37. Do you choose the types of crops you grow on the irrigated plot?
38. Has there been a reduction in the number of food crops grown due to cash crops being grown on the irrigated plot?
39. What is the arrangement for irrigation facilities and inputs?
40. In what ways has an increase in yield benefited you and other members of your household?
41. What is the size of your land?
42. Do all members of the household have equal access to this land?
43. Have you increased your irrigated plot?
44. When faced with a food crisis what kind of social network do you have?
45. How do you survive when you have a food crisis?
46. Do you have any alternatives to agricultural activities as a way to earn a livelihood?

NOTE:

The following questions were dropped because the WIN Project programmes do not have a credit component.

47. What credit facilities are you offered under the scheme?
48. Are these conditions the same for both men and women?
49. Of what help have these credit facilities been to your household especially in times of food crisis?

Checklist for Focus Group Discussions (FGD)

a. Socio-economic impact and land accessibility for women farmers

1. What do you think the position of women is now that they are participating in irrigated agriculture (earning an income)?

b. Household food security issues

2. Has the project improved the food situation in your households?

c. Control and Expenditure

3. What is the intra household arrangement of resource allocation whether it is income, land or labour?

d. Gender and social relations

4. Have you experienced any changes in your roles, responsibilities and duties as result of your participation in the irrigation scheme?

e. Benefits of project

5. What have been the benefits of this project?

f. Alternatives to agricultural activities

5. Do you have any alternatives from your current agricultural activities?

g. Extension services

6. What do you have to say about the extension services you receive?

h. Recommendations

7. What are your recommendations with regard the implementation of this irrigation scheme?

NOTE:

e. Empowerment concept

5. Would you say your participation in the scheme has empowered you as a community?
6. What do you understand by empowerment?

These two questions were dropped and replaced with a question on benefits because it became difficult to translate the empowerment concept into the local language Tonga and Nyanja.

Checklist for Key Informants

1. What was the situation of the household food security before the irrigation scheme?
2. What has been the impact of the people's participation in the irrigation scheme, especially women?
3. What are or were the coping strategies in times of crisis?
4. What do you think has been the impact of this intervention on intra household relations?
5. What difficulties are the people facing?
6. What is the situation with the extension services your community receives?

7. What are your recommendations with regard to the implementation of this project?

8. Do you have anything else you would like to day or comment on?

9. How are the WIN District Team members doing/performing?

NOTE:

9. How are the District Team WIN members doing/performing?

This question was posed to only one key informant who was in the WIN National Team.