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Social learning in Community Based Natural Resource Management Project (CBNRM). A case study of *Chipembere* gardening project in Zimbabwe.

Half Thesis

Submitted in partial fulfilment of the requirements for the Degree of

MASTER OF EDUCATION

(Environmental Education)

At Rhodes University

By

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15 February 2013

Abstract

This investigation of social learning processes in the *Chipembere* gardening project was conducted in Rockvale village one in *Sebakwe* communal area in the Midlands province of Zimbabwe. In essence, the study sought to explore how the *Chipembere* gardening project as a community-based natural resource management initiative (CBNRM), was reflecting and supporting social learning processes of change. It also sought to enrich and deepen an organizational understanding of social learning and to generate ideas and draw recommendations that could be used to strengthen learning in other CBNRM projects.

The research was undertaken as a qualitative case study with data generated through semi-structured interviews with individuals and groups. It also included an analysis of project documents and an extended period of participant observation on site and in the gardening activities. Data were indexed and coded for generating analytical memos that were used to extract and represent the scope of social learning interations within the developing project.

The study found that within the *Chipembere* gardening project a wide range of learning interactions were significant in shaping the developing project. Furthermore, these interactions were earmarked as the major drivers of social learning processes within the project. The study concluded that the social learning interactions amongst the gardeners in the Chipembere community garden were instrumental in fostering change that enhanced community livelinhoods and wellbeing.

Acknowledgements

First and foremost, I want to give special thanks to the almighty who has made this possible. I want to thank my two professors Prof Rob O'Donoghue and Prof Heila Lotz-Sistika for their endless efforts. They groomed me and saw me through the Research process. Thank you guys you were fantastic and may the Lord bless you. I want to acknowledge all ELRC staff "Dr.Olvit, Ms Ingrid, Prof. Carol and Sashay" thank you guys for all the support you gave me. Special thanks go to "Doctor in making" Cryton Zazu, you have been by my side from the beginning and you made sure you saw this through. Thank you for your endless support I appreciate.

Special thanks go to my family, my wife Paulline and son Ryan for allowing me this opportunity and their endless support. I will always remember you for all you have done for me. Lastly I want to thank friends, Masters' Colleagues and my work mates for their endless support as well as encouraging words. You motivated me physically and emotionally. Andani, Big Sam Faso and Gareth thanks for your support guys.

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Acronyms

AA:	Appropriate Authority
ADMADE:	Administrative Management Design
BOCOBONET:	Botswana Community-based Organisation Network
CAMPFIRE :	Communal Management Programme for Indigenous Resources
CASS:	Centre for Applied Social Sciences
CBNRM:	Community Based Natural Resources Management
CCG;	CAMPFIRE Collaborative Group
CoP:	Community of Practice
DNPWLM:	Department of National Parks and Wildlife Management
EEO:	Environmental Education Officer
EE	Environmental Education
KEEP:	Kwekwe Environmental Education Programme
LIFE;	Living in a Finite Environment
MBRC:	Midlands Black Rhino Conservency
MLGRUD:	Ministry of local Government, Rural and Urban Development
NGO:	Non-Governmental Organization
NRM:	Natural Resource Management
NRMP:	Natural Resources Management Programme
RDC:	Rural District Council
SCEC:	Sebakwe Conservation and Education Centre
UNEP	United Nations Environmental Programme
WEZ:	Wildlife & Environment Zimbabwe
WWF:	World Wide Fund for Nature
Zimtrust:	Zimbabwe Trust

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Chapter one

Introduction

Chapter one provides an orienting background to the entire research project to outline the context of the study and its purpose. To this end, it is opens with all relevant background information regarding Sebakwe community and *Chipembere* gardening project based on contextual profiling research that was done to develop the research. The chapter then moves on to define the three key concepts that informed the research. It further introduces readers to the general structure and organization of this research report by giving a brief outline of each of the five chapters. At the end of the chapter is a list of all acronyms used in this research report and a conclusion. In essence this chapter is in fact an orientating chapter that serves to help the reader get a good sense of the context and overall design of the research project.

1.1 Research context

This research was carried out in the context of a newly established *Sebakwe* communal area. Geographically *Sebakwe* area lies east of the city of *Kwekwe* and is under the control of Kwekwe Rural District Council (RDC) (fig 1). *Sebakwe* communal area was born out of Zimbabwe's "Fast Track Land Reform Programme" (FTRP) or commonly known as the "The third Chimurenga" which involved the taking of land from white commercial farmers and redistribute it to the formally marginalized people.

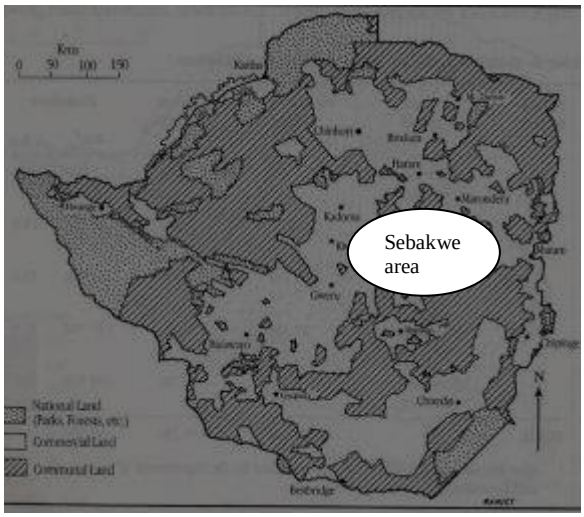

Fig 1: Sebakwe area. *Adapted from Robertson (2000)*

In terms of Zimbabwe's agricultural and ecological classification systems, *Sebakwe* lies in region four. The region is characterized by low rainfall, shallow soils, and high prevalence of tsetse flies. And a mixture of Miombo, Acacia and Mopane woodlands perfectly describes the vegetation of the area. In summary Agricultural region four is conducive for game and cattle ranching and requires a very careful land use and irrigation based agriculture. Therefore, the area is richly endowed with wildlife including the critically endangered Black Rhinoceros (*Diceros Bicornis*) thus it is of key concern to government and other organizations with interest in environment and conservation work i.e. Sebakwe Conservation and Education Centre.

A contextual profiling to generate this data was carried out prior to the research. This reveled that *Sebakwe* community is faced with a wide range of environmental and health issues and risks, among others that included:

- Accelerated deforestation as people were opening up large tracts of virgin woodlands to create crop fields and to harvest timber for construction of their huts. The deforestation in some instances was accelerated due to unsustainable practices which competed for timber such as, open fire systems for domestic cooking, individual field and gardening fencing using tree poles and shrubs among others.

- Massive land degradation due to soil erosion caused by unsustainable farming practices is prevalent in the area.

- Siltation of rivers and nearby dams as the eroded soils found their way into the rivers and streams ultimately deposited in the dams affecting aquatic life and availability for water livestock and gardening.

- Severe depletion of wildlife especially game animals being poached for meat and income generation. This include the ruthless poaching of the critically endangered Black Rhinoceros (*Diceros Bicornis*) which saw its numbers depleting from 84 black rhinoceros in 1994 to a single digit (Sebakwe news, 2010) .

- Rampaging veld fires are often a result of local people's illegal hunting strategies and to clear vast tracts of land for agriculture. The impacts of these fires on the entire ecological system cannot be under-estimated.

- *Sebakwe* community is also faced with critical shortages of food including vegetables risking their health and increasing prevalence of poaching. It was also observed that their previous farming systems were failing them to achieve their intended goals when it comes to feeding their families.

Furthermore, *Sebakwe* community can be described as a "community in making" (Zazu, 2008) this is because the community is composed of people from diverse cultural origins and ethnic groupings bringing a basket of different cultures, knowledge systems and practices. Social cohesion, which depends on cultural hegemony is still in its infancy within this community (Zazu, *ibid*). It is interesting to note that despite its diverse composition the community already had a well-defined traditional leadership structures borne of the socio-political processes that constituted the resettlement. Despite the resettlement imperative that helps people together there appeared to be a lack a coherent social and economic structures compared to other typical communal or rural area in Zimbabwe.

It was notable that despite the cultural differences and lack of social cohesion within the *Sebakwe* community, the community boasts of a seemingly well-organized communal gardening project. This gardening project is called *Chipembere*. It is the unit of study in this research project. More information on the socio-cultural context of the gardening project is given below.

1.2 *Chipembere* gardening project

Chipembere gardening project is situated in *Sebakwe* communal area in Rockvale, village one, is mainly composed of two settlement areas namely Pauldale and Rockvale. According to Sebakwe news (2010) the project benefits twenty women from the twenty households who reside in this village. *Chipembere* garden is located some 1km eastwards of the residential area and it is 4 900m^2 in size.

The Centre Director informed me that *Chipembere* garden is approximately 20m adjacent to a small dam which has a total capacity of approximately 500 000cm^3 and the dam is fed by a non-perennial small river which normally flows during the rain system (P. Mutemi, personal communication, March 11, 2011). The dam water is also fed by several surrounding small springs and vleis which directly drain into it so that there is water throughout the year. The dam also provides water for the livestock, game animal and for human consumption since the community has no other water source besides this dam. Therefore, the dam means life to the community and its presence brings life to this area (P. Mutemi, personal communication, March 11, 2011). At the same time, the presence and faithfulness of the dam is pivotal to the existence, survival and contributes enormously to the success of *Chipembere* gardening project since this is their only water source to irrigate their produce and to provide food for domestic consumption (P. Mutemi, personal communication, March 11, 2011).

Chipembere gardening project is an initiative of Sebakwe Conservation and Education Centre (SCEC) through its programme "Connecting People and Wildlife" together with its "Collaborative Research Programme" with local universities in Zimbabwe. Sebakwe Conservation and Education Centre is a project of the Wildlife Environment of Zimbabwe and is situated 35 km east of Kwekwe town, adjacent to the Midlands Black Rhino Conservancy in the Midlands Province of Zimbabwe (Sebakwe Project document, 2006). The centre was established in 2003 and officially opened by the Vice President of Zimbabwe, Dr. J. Msika in 2005.

The main mandate of SCEC is to promote Sustainable Conservation and Development through Environmental Education and Awareness, Capacity Building, Community Empowerment, and Wildlife and Environment Research processes. Therefore, out of research work in *Sebakwe* communal area as stipulated in SCEC's mandate was born *Chipembere* community gardening project. Learning from contextual profiling research, Mpunzis' (2008) study in *Sebakwe* communal area recommended an urgent need to raise environmental awareness in *Sebakwe* community and introduction of a fuel saving

alternative in form of the improved *(tsotso*) stoves. Therefore, the gardening project was conceptualized to act a strategy to encourage local people to appreciate the new *tsotso* stoves hence it was set as a pre-requisite to join the gardening project (Mukwambo, 2011).

SCEC played a pivotal role in the establishment of the gardening by donating fencing material enough to cover one acre 4 900m^2, and it became the official founding and funding partners to the gardening project. The garden was officially handed over to the *Chipembere* gardeners by Dr. J. Gripper (founder of SCEC) on the 20th of September 2012. One of notable rationale of establishing this project was the appreciation of the potential and promise offered by such community projects in reducing prevalence of poaching for food (P. Mutemi, personal communication, May 01, 2012; Sebakwe news, 2012). Therefore, establishment of this project was one tool used to fight poaching in the area mostly in two ways:

a) the garden opened opportunities for readily available food and

b) Income generation.

In this way Rockvale village one and its garden was positioned as a buffer zones to other distant poaching gangs and that is how a stewardship and ownership attitude was being cultivated in the area (P. Mutemi, personal communication, March 11, 2011). *Chipembere* gardening project was also noted for "richness in indigenous knowledge" (Fabricius et al., 2004).

The history and context of *Chipembere* and all issues raised informed my decision to select it as a research site to probe social learning interactions and a case study research design was developed (See Chapter three). The outcomes of this research project are thus specific to *Chipembere* gardening project and will not be generalized. However, this is not to limit the transferability of such findings to other cases or limiting the recommendations to *Chipembere* gardening project only. Furthermore, as highlighted in the discussion above, *Chipembere* project is an initiative of SCEC and since I was employed for SCEC as an Environmental Education Officer I was involved with the case from the establishment to-date. Hence it is important to highlight my position and involvement with *Chipembere* project and outline how this has informed or affected my research decisions or my entire research process. Therefore, my position and involvement with the case will be discussed at length below.

1.2.1 My position and involvement with *Chipembere* project

As mentioned above at this moment it will be of great importance to briefly introduce my professional attachment with Chipembere gardening project. My position within Wildlife Environment of Zimbabwe (WEZ) is that of Environmental Education Officer (EEO) for the Midlands Province. This

means that I am the EEO for both WEZ midlands branches Sebakwe Conservation and Education Centre (SCEC) and Kwekwe Environmental Education Programme (KEEP). Therefore, I was involved much in the development phase of the gardening project in 2010 and left the project at its infantry stage, only to be actively involved again in the monitoring phase (late 2011 to 2012). However, the relationship and trust I build with *Chipembere* members over the entire time of my involvement was enormous and has positioned me as an 'insider' rather than a visitor. Therefore, in my research process Chipembere gardeners regarded me as one of their member not a visitor or an outsider anymore.

However, this has own advantages and disadvantages as noted by many scholars. Therefore, in this research I could not fairly deny my existence and professional attachment to Chipembere gardening practices rather I tried to distant my involvement in the project and played a participant observer role. This meant that I would participate in their gardening and interacted with them whenever the need arise. This gave me a chance to critically observe their practices, interactions and be familiar with their language. However, the intentional detachment was meant to take up a more objective vantage point of the study (Zazu, 2008). As Elias (1987, p. vii) cited in Zazu (2008) note that the need to self-distance oneself from the subject being studied often helps researchers to conduct research in a way that generates more meaningful knowledge claims. Therefore, in principle I was critical and very cautious that my involvement and interest in *Chipembere* gardening project was not going to influence the way the research processes (data collection, analysis and interpretation) was going to be done.

1.3 Research Purpose

This research arose from my curiosity to investigate social learning in *Chipembere* gardening project with the intention to find out how this project was enabling learning interactions in social engagement processes that were contributing to the project being successful. Firstly this curiosity was triggered by my professional attachment to the case as an Environmental Education Officer (EEO) for the past three years. Therefore, working for Sebakwe (SCEC) as an Environmental Education Officer whose key job involved promoting sustainable and conservation practices; raising environmental awareness and of crucial is facilitating establishment of community and schools' nutritional gardens, positioned me in a wanting to get a better grasp of the assumed learning processes embedded in these community projects. Added to, is the exposure to Social Learning theory (Wals, 2007; Lave & Wenger, 1998) and reading literature on social learning particularly by prior researches in similar context (Downsborough, 2009; Pesanayi, 2009; Masara, 2010) that I craved to do a similar research on *Chipembere* gardening project. Furthermore, the research was informed by the realization of an influx in the establishment of Community Based Natural Resources Management initiatives in the form of community gardens and the realization how understanding cases of these initiatives might give us a better grasp of social learning. In the context of Zimbabwe, Sebakwe Conservation and Education Centre initiated such a

project hence, my interest to find how it enables social learning among its gardeners.

Secondly, given my professional position as an EEO, my research purpose is the ultimate goal of generating practical ideas and guidelines that could be used to promote and support social learning in emerging community projects. This will go a long way in develop better ways of promoting social learning in many community project initiatives underway and yet to be established by Sebakwe Conservation and Education Centre. This will also deepen current understanding of social learning; the link between community projects-social learning and attitudinal change and lastly promoting social learning as a driving motive for environmental conservation. Therefore, in the next section I will highlight the specific objectives and research questions this research sort to answer.

1.3.1 Specific objectives of this research are to:

- Explore how *Chipembere* gardening project enables social learning process.
- Generate ideas and draw recommendations that could be used to promote social learning in emerging and already existing projects.

Therefore, these two objectives are intended to looking at the community project in question as more than just groupings of people but rather a viable medium for social learning among participants.

1.3.2 Research questions

In order to achieve the above objectives, this research sought to answer following questions:

- Why was *Chipembere* project started?
- What are the main gardening activities involved within the project?
- What have been the challenges and opportunities faced by the gardeners?
- How is social learning taking place within *Chipembere* gardening project?
- What has and might be done to improve opportunities for social learning in *Chipembere* gardening project?

These questions provided both useful starting points and a developmental progression for the case study of *Chipembere.*

1.4 Definition of key concepts

It is of great importance at this juncture to briefly introduce readers to the three key concepts of this research namely Community Based Natural Resource Management (CBNRM), Communities of

Practice and lastly Social Learning. These concepts will be briefly defined and later discussed at length in chapter two "literature review".

1.4.1 Community Based Natural Resource Management (CBNRM)

Child (1997) defines Community Based Natural Resource Management (CBNRM) as an institutional or organizational development program, whereby wildlife is used to economically empower local people, with the money flowing through communities providing the catalyst for them to organize themselves around democratic and managerial principles (p. 3). CBNRM concept acknowledges the importance of the local rural population's involvement and participation in the management of natural resources surrounding them. Hence, the concept appreciates power transfer in form of land rights to the local RDC's in Zimbabwe and to the local communities at large. According to Chaka (2001) CBNRM initiatives were predominantly noticed in Zimbabwe in the post colonial era 1987-1988 and these were done mostly to empower indigenous people, alleviate poverty and in some incidents to resolve human-wildlife conflicts and to fight biodiversity loss which was so dominant in this era.

In Zimbabwe the most popular example of a Community Based Natural Resource Management initiative is the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) which seeks to distribute benefits realised from wildlife in form of meat and revenues realised from safari hunting especially elephants among the communities that realise the inflictions of staying in proximity to wildlife (Department of National Parks and Wildlife Management, (1990) as cited in Madzudzo, 1998). Henceforth, Sebakwe Conservation & Education Centre in collaboration with Midlands Black Rhino Conservancy (MBRC) established such an initiative in Sebakwe communal area which is commonly known as *Chipembere* gardening project where this study was conducted. Hence, the reason Community Based Natural Resources Management concept is of significant importance to this study and will be discussed in detail in chapter two.

However, of interest to my study is the fact that among these wider Community Based Natural Resource Management initiatives there are some small communal projects such as *Chipembere* gardening project that aim at developing, empowering local communities and conserve biodiversity. Through stakeholder involvement and participation in these projects there is an assumption that involved stakeholders will be learning. And it is this learning in a single case that this study aims to investigate and explore. However, to explicitly achieve set up objectives for this study Communities of Practice theory (Lave & Wenger, 1991) will be employed to probe the *Chipembere* gardening project as a Community of Practice (CoP) and in CoP theory it is a prerequisite for a group to recognise itself as a community of practice. Furthermore, the Cop theory will be used to explore and explain the assumed learning processes in Chipembere gardening project. Therefore, Community of Practice theory will be discussed briefly below.

1.4.2 Community of Practice (CoP)

In 1991 Jean Lave and Etienne Wenger coined the term Community of Practice (CoP). It is a theory which gives identity to communities and project groups engaged in a shared activity. They describe Community of practice as "group of people who engage in a shared domain of human endeavor…" (Lave & Wenger, 1991, p. 2). Wenger (1998, p. 74) further enlightened us when it comes to classification of communities of practice when he argued that, "membership is not just a matter of social category, declaring allegiance, belonging to an organization, having a title, or having personal relations with some people". But, "as a group of people who share a concern or a passion for something they do and learn to do it better as they interact regularly" (Wenger, 2007, p. 1). Therefore, a community of practice defines itself along three dimensions:

- **What it is about**- its *joint enterprise* as understood and continually renegotiated by its members.
- **How it functions** – mutual engagement that bind members together into a social entity.
- **What capability it has produced** – the *shared repertoire* of communal resources (routines, sensibilities, artifacts, vocabulary, styles etc.) that members have developed over time. (Wenger, 1999, pp. 73-84)

What is most distinctive in a community of practice is its three characteristics **the domain; the community and the practice.** And these three major characteristics of a CoP will be discussed in detail in chapter two. Hence, Community of Practice theory is significantly important to this study since it categorises groupings such as *Chipembere* not just as a Community Based Natural Resource Management (CBNRM) project but also as a community of practice learning to change. Therefore, the theory provided appropriate language to describe and classify *Chipembere* gardening project as a Community of Practice and it also provided a theoretical framework and analytical tools to investigate and explain the assumed learning process that is embedded in *Chipembere* gardening project. Lastly since I aimed at investigating social learning within *Chipembere* context, Community of Practice theory was complimentary to Wals' (2007) Social learning theory whose insights inspired this study. Therefore, Community of Practice framework provided a base on which I can safely draw from Wals' (2007) social learning theory to investigate and discuss the assumed learning processes in the case. Hence, Wals' social learning theory will be discussed briefly below.

1.4.3 Social learning

Wals (2007 p. 18) defines social learning as "learning that takes place when divergent interests, norms, values and constructions of reality meet in an environment that is conducive to meaningful interactions". And Lave and Wenger (1991, p. 3) further proposed that such learning is a human-life process; "it does not begin and end of specific time" but rather it is a process of engagement in a community of practice. Therefore, Wals' (2007) Social learning theory provides an analytical framework to investigate, describe and explain that kind of learning that is brought in by engaging in a

community of practice. His framework can be summarized as 6 contours to social learning listed below:

a) *Orientation and exploration* –key actors and key issues or challenges are identified that might connects with prior experiences, history, memories, and social backgrounds increasing learners' motivation and sense of purpose.
b) *Self awareness* -learners realize ones' own frames relevant to key issues or challenges
c) *Deframing or deconstructions* –articulating and challenging one's own and each other's frames through a process of clarification and exposure to conflicting or alternative frames.
d) *Co-creating* –joint (re)constructing of ideas, prompted by the discomfort with one's own deconstructed frames and inspired by alternative ideas provided by others
e) *Applying or Experimenting* –translating emergent ideas into collaborative actions based on the newly co-created frames, and testing them in an attempt to meet the challenges identified.
f) *Reviewing* –assessing the degree to which the self determined issues or challenges have been addressed, but also a review of the changes that have occurred in the way the issues or challenges were originally framed through reflective and evaluative process. *Adopted from* Wals (2007, p. 41)

Therefore, the above social learning contours will be discussed at length in chapter two. But what is of interest to mention is the fact that since I intended to investigate Social learning in *Chipembere* gardening project, Wals' (2007) social learning theory became a key concept to my study. Furthermore, Wals (2007) offers these 6 contours to social learning process as a tentative scoping synthesis, leaving it open. Hence, this offers a starting point to probe this case of social learning by reading data generated using a range of research tools to represent the patterns of interactions that have been significant. Hence, this theory provided language and analytical tools to investigate such assumed learning processes in context. Therefore, social learning theory was brought in not as a stand-alone but, to support and strengthen the already existing Community of Practice theory and to step up on the already laid platform of community of practice to investigate social learning as a broader perspective within *Chipembere* gardening project.

In the next section I will provide a brief outline to my entire research project by giving a brief summary of each chapter. The section seeks to give readers a preview of this research report's structure.

1.5 Structure of my thesis

As mentioned earlier this research was organized in five chapters and each chapter focusing on a particular purpose of the research. Briefly the chapters were organized as follows:

1.5.1 Chapter one: Introduction

As said earlier this section is an orienting framework to the entire research project. Its main purpose

was to outline the research purpose, objectives and goals furthermore, to briefly introduce the readers to context of the research, the case study and the key concepts used in the research. Therefore, this chapter is an introductory section mainly aimed at helping readers to have a good sense of the overall research project conceptualization and purpose. It also paves way for chapter two which will be briefly discussed below.

1.5.2 Chapter two: Literature review

Chapter two discusses the relevant theoretical and conceptual frameworks underpinning, relating and shaping this research study. Therefore, the chapter begins by briefly giving a historical overview of Community Based Natural Resources Management in Zimbabwe to situate the case in a wider context. And it furthers this by conceptualizing *Chipembere* gardening project as a community of practice consistent with the works of Lave and Wenger (1998). Finally the chapter relates *Chipembere* gardening project as a Community of Practice and discusses the assumed learning that is taking place within. Overall this section is a literature review hence, it is in this section that a line of argument will be crafted and relevant literature will be drawn upon to locate, support and justify the arguments for conducting this research. Therefore, this section is a stepping stone to chapter three in which the research argument together with the laid objectives and research questions in chapter one will be pursued into the field to gather relevant data from the case. Therefore, procedures and methodological decisions will be briefly discussed below.

1.5.3 Chapter three: Research Methodology

This chapter seeks to answer three important questions to data collection process that is **How? When? & Why?** Therefore, this chapter seeks to outline the research decisions made when collecting data from *Chipembere* gardening project. The chapter starts by briefly discussing the methodological decisions of the study. It goes on to discuss at length the actual data collection process, justifying the research methods of the study. The chapter moves on to discuss how the gathered data was managed, later interpreted and analyzed. The last part of the chapter is more of researcher's reflexivity; therefore, the chapter discusses how ethical questions were dealt with, how the researcher has managed to maintain data validity and trustworthiness. Lastly the chapter discusses research limitations before the closing conclusion to the chapter. In essence chapter three is a preparatory phase for data presentation in chapter four and a brief discussion of the chapter will be done in the next section.

1.5.4 Chapter four: Data presentation

As mentioned above this chapter builds on chapter three, therefore, it is in this section where all the analyzed data and preliminary insights were presented. In essence the chapter presented relevant evidence to answer the stipulated research questions and objectives in chapter one. Furthermore, it

provides contextual evidence to the research argument in chapter two in form of emergent categories, themes and preliminary insights. In summary the chapter begins by briefly introduce and discuss the two data presentation methods adopted for this research study and goes on to contextualize *Chipembere* gardening project as a community of practice. The chapter goes on to discuss learning opportunities and challenges within *Chipembere* CoP. Furthermore, before this chapter's conclusion the chapter discusses how *Chipembere* CoP enables learning to take place among its gardeners. Therefore, this chapter paved way for the development of analytical statements and making meaningful claims supported by contextual evidence in chapter five. In the next section a brief discussion will be presented on how chapter five monopolized on research data or evidence presented in this chapter.

1.5.5 Chapter five: Data interpretation and discussion

In this chapter I explored through all the processed data seeking some meaning, opportunities and challenges for social learning. Therefore, in this chapter I interpreted the presented evidence and discussed the emergent issues, themes and challenges and eventually gave some recommendations. With the help of theoretical frameworks, prior literature and the available evidence I was able to draw a conclusion responding to my research purpose and objective. Therefore, this chapter shares with the reader the process that went into data interpretation and the theories used to come up with new insights regarding to generating practical recommendations and better ways of promoting social learning.

However, this chapter served the main purpose of drawing up conclusions based on data interpretation and evidence gathered from *Chipembere* gardening project. Therefore, at last I argue the importance of such a research and restrict the conclusions drawn in this research to the specific research context in which the research was conducted. However, I also argue the possibility of transferring the conclusion and recommendations elsewhere for the improvement of our practices as environmental conservationist and educators.

1.6 Conclusion

In conclusion this chapter provided a detailed overview on the conceptual and rationale of this study as a whole. The chapter further introduced and defines the three key conceptual underpinnings to this study. Furthermore, I provided the context in which this study was done. Therefore, this chapter was indeed an introductory and orienting chapter to the whole study. It gave the ultimate outline of the whole study and in essence it paved way for chapter two where theoretical and conceptual underpinnings to this study will be discussed in detail.

Chapter two

Literature review

Introduction

Chapter two provides a literature review informing the study. The chapter starts by discussing the concept of Community Based Natural Resource Management (CBNRM), it gives a historical overview of CBNRM in the context of Zimbabwe. The chapter further discusses and relates CNBRM and Community of Practice (CoP), it tries to conceptualize *Chipembere* as a Community of Practice. The chapter finally presents an overview of *Chipembere* food garden as a Community of Practice and the learning that is assumed to be taking place within.

2.1 A historical overview of Community Based Natural Resource Management programme

Child defines, Community Based Natural Resource Management (CBNRM) as an "institutional or organizational development program, whereby wildlife is used to economically empower local people, with the money flowing through communities providing the catalyst for them to organize themselves around democratic and managerial principles" (1997, p. 3). Furthermore, Gujadhur (2000) describe, CBNRM as the integrated approach to wildlife conservation and rural development which was predominant in the early 1980's, and has evolved overtime to a full-scale movement. CBNRM came about as a new solution to the failed top-down approaches to conservation (Gujadhur *ibid*).

The success of CBNRM rests on the recognition that local communities must be given full rights over the utilization and benefits of natural resources in order to value them in a sustainable manner. This approach entails community institution-building, comprehensive training, enterprise development, policy negotiation, and natural resources management skills, among other forms of assistance. Historically in Southern Africa CBNRM concept evolved over time and this process is dramatically represented below,

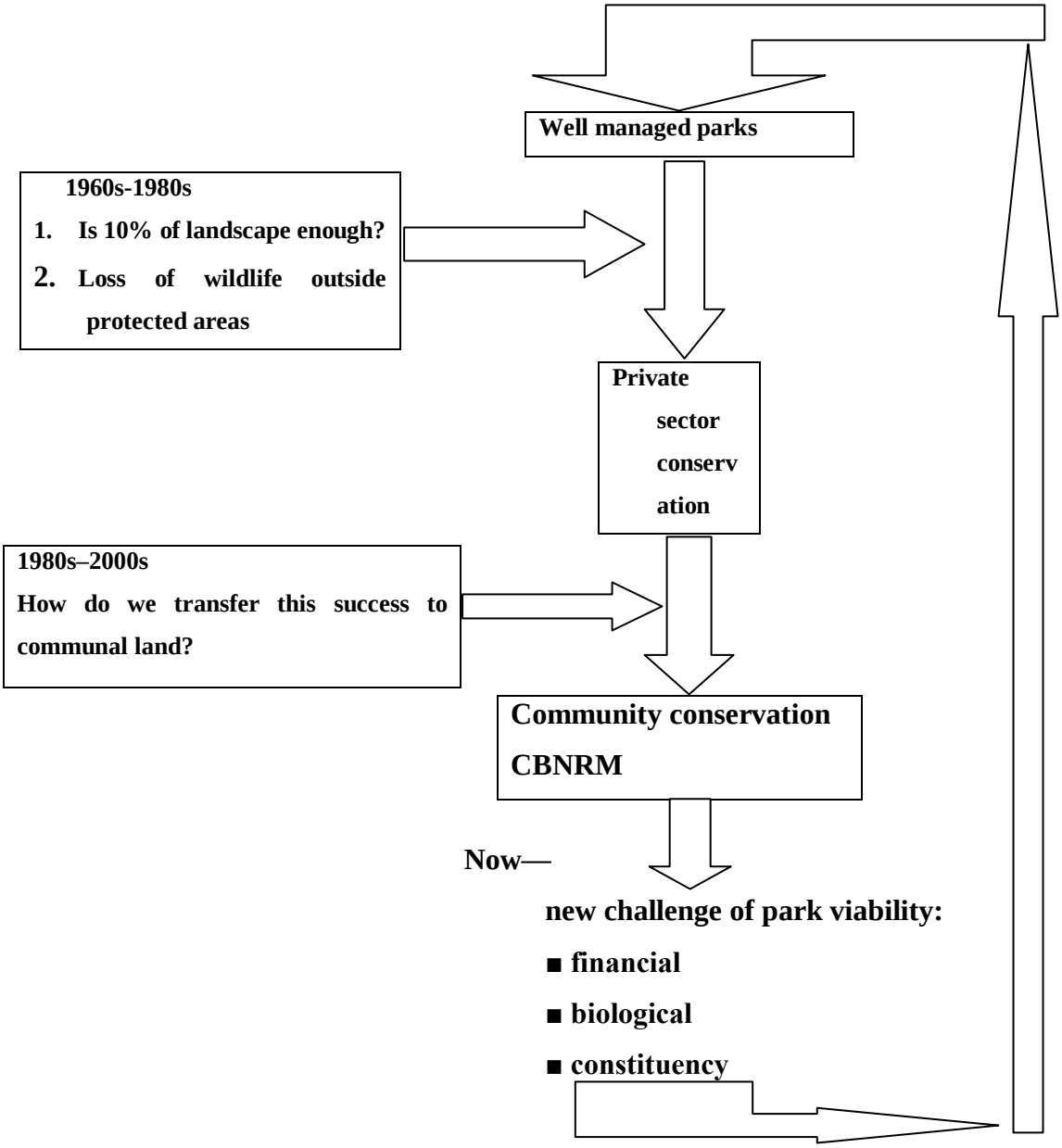

Figure 2: The changing focus of conservation innovation in Southern Africa. (*Adopted from* Child 2003b, p. 3)

Between 1980s and early 2000 Community Based Natural Resource Management (CBNRM) became a very popular and common concept in Southern African region. CBNRM programme was regarded as the most successful programme in Southern African region and its successes were highly appreciated and acknowledged (Gujadhur, 2000). Although, some analysts are of the view that, contribution of CBNRM in southern Africa to biodiversity conservation is questionable and there is little evidence of local people investing time and money in biodiversity management (Magome & Fabricius, 2004).

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However, there are several Community Based Natural Resource Management (CBNRM) success stories which can be drawn on from several Southern African countries namely, Administrative

Management Design (ADMADE) in Zambia, Living in a Finite Environment (LIFE) programme in Namibia and Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) programme in Zimbabwe among others. For instance, in Botswana CBNRM concept was introduced in 1989 funded by National Resource Management Programme (NRMP). The first CBNRM project known as Chobe Enclave Conservation Trust was established in 1993 (Rozenmeijer, 2003). However, since then Botswana realized an abrupt increase in establishment of conservation trusts. This saw a total of 46 registered and developed trusts covering 8 districts of Botswana, involving 130 villages and a total of 40 000 people being actively involved (Rozenmeijer, *ibid*). And to-date Botswana is regarded as one of the achievers in promoting CBNRM projects with their Botswana Community-based Organization Network (BOCOBONET) being established in 1998 and their CBNRM being recognized in their 2002 Rural Development Policy (Rozenmeijer, *ibid*)

Namibia is also another success Southern African country actively involved in promoting Community Based Natural Resource Management programmes (CBNRM) (Jones, 1997). In Namibia CBNRM concept emerged early 1990s through Ministry of Environment and Tourism together with its working partners and NGOs (Gujadhur, 2000 p. 37). Namibian CBNRM programme was supported by USAID Funded Living in a Finite Environment (LIFE) project (LIFE, 1998a). This development saw some conservancies established in 1996 with the current number ranging to 77 registered conservancies (LIFE, *ibid*). However, Namibia's CBNRM programme has three main elements namely:

1. **A natural resource management and conservation** programme. It promotes wise and sustainable management of natural resources, encouraging biodiversity conservation by creating the necessary conditions for sustainable use.
2. A **rural development** programme. It seeks to develop rights and responsibilities over wildlife and tourism to rural communities thereby creating opportunities for enterprise development and income generation.
3. An **empowerment and capacity building** programme. It encourages and assists communities and their local institutions to sustainably develop and pro-actively pilot their own futures. (Gujadhur, 2000, p. 37)

And lastly to draw from Zimbabwe in which this research study was conducted. Community Based Natural Resources Management programme (CBNRM) is argued a successful story, that has demonstrated ecological and economic comparative advantage of wildlife in semi-arid rangelands that could not support viable rain-fed agriculture and where live-stock production was an inferior land use (Child, et al., 1997). Notably CBNRM movement in Zimbabwe transferred wildlife enterprise systems to communal land, where the greatest challenge was organizing large numbers of people with weak property rights to benefit and be actively involved in the management of such wildlife resources**.** Therefore, CBNRM can be viewed primarily as conservation, using economic benefits to encourage

communities to husband wildlife. In Zimbabwe CBNRM concept was introduced and became dominant during the early 1980s and one of its project commonly known as Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) became viable and popular within and beyond the region.

Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) is arguably the most famous of all the CBNRM initiatives in southern Africa, and was a pioneer in publicizing the concept (Gujadhur, 2000). The programme was officially designated in a strategy paper by Zimbabwe's Department of National Parks and Wildlife Management (DNPWLM) in 1986. Because the government did not have the resources to implement the strategy, it asked for assistance from the non-governmental sector, and in 1987 the CAMPFIRE Collaborative Group (CCG) was formed by the World Wide Fund for Nature (WWF), the Centre for Applied Social Sciences (CASS) at the University of Zimbabwe, Zimbabwe Trust (Zimtrust) and DNPWLM (Child, 1997). Later, the Ministry of Local Government, Rural and Urban Development (MLGRUD) joined to facilitate the granting of Appropriate Authority (AA) status to the Rural District Councils (RDC) under their administration, allowing them to negotiate commercial safari leases directly with the private sector (Child, *ibid*). The CAMPFIRE Collaborative Group is the coordinating agency of the CAMPFIRE programme (Africa Resource Trust, 1996 cited by Gujadhur, 2000).

In 1989, the first two of Zimbabwe's 57 districts were awarded Appropriate Authority (AA) status to manage their wildlife by the Minister of Natural Resources and Tourism, and today, 37 Rural District Council (RDC) have been granted AA status (Gujadhur, 2000). The first 12 districts awarded AA were, by design, the best-endowed areas in terms of wildlife. They could generate quick and large amounts of money from safari hunting and demonstrate the profitability and benefits of Community Based Natural Resource Management programme (Chikomo, 1997). Over 90% of Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) revenues continue to come from consumptive use of wildlife and only in the last few years have attempts been made to diversify use beyond wildlife to other resources (Gujadhur, 2000).

It is interesting to note how local communities were initially secluded from natural resources management with Communal areas contain over 56% of Zimbabwe's population, yet with no proper authority or rights to manage their wildlife (Child, 1997). Until 1975 when Wild Life Act was amended to grant the same rights to Rural District Councils, and Nyaminyami and Guruve were the first to be awarded Appropriate Authority (AA) in 1989 (Child, *ibid*). And in 1991 guidelines for the use and allocation of wildlife revenues by districts was issued by Zimbabwe's Department of National

Parks and Wildlife Management (DNPWLM), which stipulated that 50% of gross wildlife revenues must be distributed to producer communities, up to 35% used for wildlife management and up to 15% to the RDCs for administrative costs (USAID undated). In 1992 a second set of guidelines were issued which increased the percentage for communities to 80% (Gujadhur, 2000).

Gujadhur, (2000) argue that the success of Southern Africa's Community Based Natural Resource Management (CBNRM) conservation concept is heavily premised on the Price-Proprietorship-Subsidiarity Hypothesis (Figure 3, below)

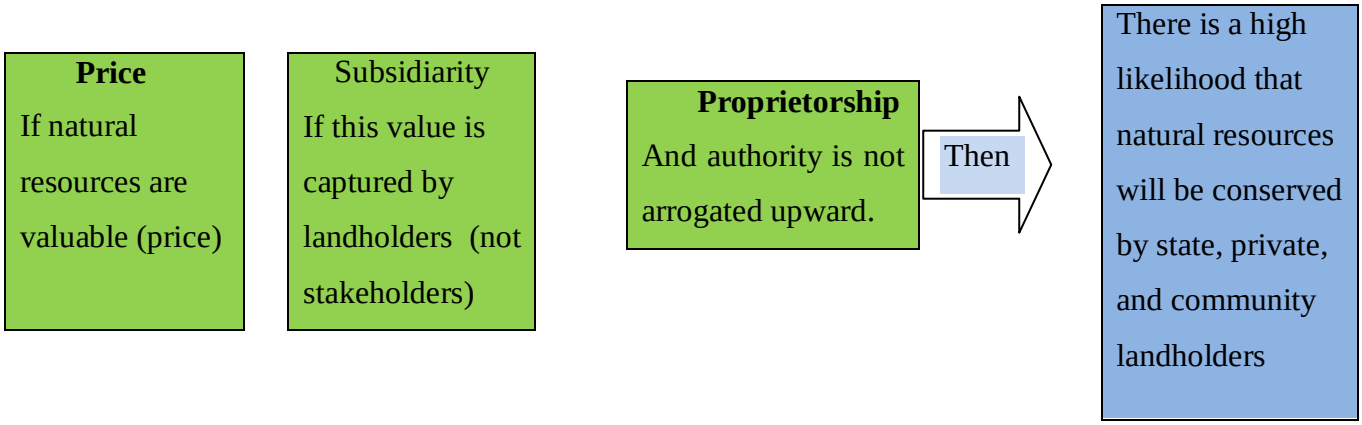

Figure 3: The Price-Proprietorship-Subsidiarity Hypothesis. (*Adopted from Child, 2003b.*)

In which two primarily moves made Community Based Natural Resources Management (CBNRM) programme a success story. Firstly landholders were given strong rights to use wildlife on their land and secondly, as landholders used wildlife they discovered its ecological and economic comparative advantage since livestock production is not sustainable in certain ecological systems (Bond, 2004 as cited by Child, 2003b, p. 20) This was also because of Southern Africa's exceptional wildlife diversity, which laid the foundation for profitable enterprises (Child, 1988 as cited by Child, 2003b, p. 21). Of great importance to conservation work, this double comparative advantage allows substantial financial income without over utilizing environmental capital thereby achieving environmental sustainability and biodiversity conservation normative goals. And this was a great achievement to Southern African region since a nominal, 20% of its land is under some form of wildlife use (Taylor, 2003 as cited by Child, 2003, p. 21).

However, after mentioning all these early success stories from Southern African region it is important to stress why such literature is of great importance to this research study. Firstly this study was conducted within a Community Based Natural Resource Management (CBNRM) project (*Chipembere* gardening project) hence, understanding historical background of such a concept will enable us to understand context of the study, the principles that guide such projects and how these principles have

been modified over time. This will also help to explain why Sebakwe Conservation and Education Centre (SCEC) in collaboration with Midlands Black Rhino Conservancy (MBRC) took this route of promoting conservation work through vegetable gardening project. Secondly, this will give a clear platform where I can safely make contributions to knowledge and practice in the field of Natural Resource Management, since one of the research objectives is to generate ideas and draw recommendations that could be used to promote social learning in emerging and already existing projects for our organization.

Furthermore, understanding Community Based Natural Resource Management (CBNRM) concept will go long way to improve our current understanding and practice in promoting social learning among CBNRM projects. To add on, understanding CBNRM concept and literature is significantly important to this study because of the common assumption in Natural Resources Management systems that the involved stakeholders, local communities do learn and enhance their adaptive capacity through their involvement and participation in such CBNRM initiatives (Parson & Clark, 1995; Diduck, et al., 2005; Keen et al. 2005a cited in Reed, et al., 2010). And this assumption is of great importance to this research study since this is the source of my curiosity to investigate the kind of learning that is assumed and to explore how this learning happens in *Chipembere* gardening project. Therefore, after defining Chipembere gardening project as a CBNRM initiative and tracing the historical background of such a concept in Southern Africa at large it is now important to qualify such an initiative as a community of practice. The next section will build upon the laid foundation of Chipembere as a CBNRM project and will step up to further classify this initiative as a community of practice.

2.2 Conceptualizing *Chipembere* gardening project as a Community of Practice

In 1991 Jean Lave and Etienne Wenger developed an analytical tool for situated social learning. They saw it as a "human-life process that does not begin or end at a specific time, a process of engagement in a "community of practice" (Wenger, 1998, p. 3). In their discussion they described Communities of Practice as communities that are "mutually engaged in a shared practice, negotiation of joint enterprise and development of a shared repertoire" (Lave & Wenger, 1991, p. 98). If this concept of Community of Practice is applied to this study, *Chipembere* gardeners can be described as women bond together by:

- accelerated and persistent environmental risks and threats;
- the need to alleviate poverty through vegetable gardening;
- the need to conserve the environment and lastly

- an eagerness to upraise rural project initiatives. (P. Mutemi, personal communication, May 01, 2012)

I noted all of these features in my first encounter with the group and immediately thought of them as a Community of Practice that developed around shared needs and interests that brought and held them together as a group. My research interest thus became Chipembere as a Community of Practice and I set out to develop an in-depth understanding of the environmental learning within the group.

In describing a Community of Practice Lave and Wenger (1991, p. 2) view Community of Practice as, "group of people who engage in a shared domain of human endeavour". Wenger (2007, p. 1) further defines Community of Practice as, "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly". In this light "membership is not just a matter of social category, declaring allegiance, belonging to an organization, having a title, or having personal relations with some people" (Wenger, 1998, p. 74). But communities are defined, rather, as people who engage in a shared practice whose meaning they must negotiate with each other (Wenger, *ibid*). Therefore, a community of practices thus defines itself along three dimensions:

- **What it is about**- its *joint enterprise* as understood and continually renegotiated by its members.
- **How it functions** – mutual engagement that bind members together into a social entity.
- **What capability it has produced** – the *shared repertoire* of communal resources (routines, sensibilities, artifacts, vocabulary, styles etc.) that members have developed over time (Wenger, 1999, pp. 73-84)

Borrowing from Pesanayi (2009, p. 66), "communities of practice are self-organizing systems that develop around things that matter to people (i.e. nutrition, poverty and conservation) and also move through various stages of development characterized by different levels of interactions among the members and different kinds of activities". The three characteristics of a community of practice are:

1. **The domain** – A community of practice can be defined or distinguished from any other community groupings by its shared domain of interest. Membership implies commitment to domain (e.g. nutritional gardening) and thus a shared competence that distinguishes members from other people.
2. **The community –**community members engage in joint activities and discussions, helping each other and shared information.
3. **The practice** -Community of practice is not a mere group of interested people but are practitioners who develop shared repertoire of resources forming a shared practice: i.e. *experiences, stories, tools, and ways of addressing recurring problems.* (Wenger, 2007, p. 2, my emphasis)

The above characteristics of communities of learning is diagrammatically expressed below

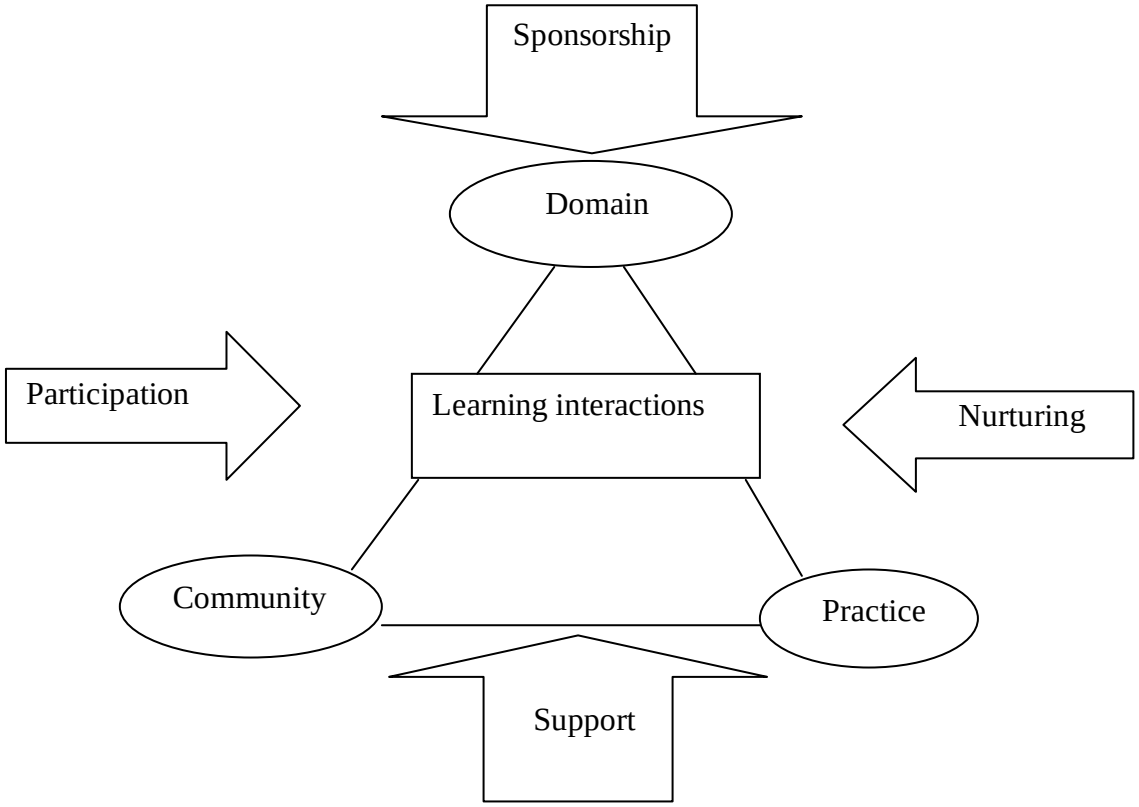

Figure 4: Wenger's structural model of a community of practice ***(Adopted from Wenger, 2007, p. 2)***

Lave and Wenger's (1991) Community of Practice framework reflects an underlying assumption of an epistemology and ontology grounded in shared practice. It also supports the view that there is more than one way of viewing reality, allowing for equal consideration of, and respect for the contributions of members of the community of practice under study, since they come from different backgrounds and might bring in different experiences due to social dynamics such as migration and training (Pesanayi, 2009). This concept is referred to as "distributed cognition" whereby cognition is distributed among individuals and knowledge is socially constructed, collaboratively, thus making it essential for a community of practice to share common resources (Salomon quoted in Daniels, 2001, p. 70). Considering *Chipembere's* historical background and community composition, I noted that this framework will be of interest to apply to the case.

Drawing from the above discussion it can be noted that it is in such community projects (*Chipembere*) where women of shared domain and repertoire: gather regularly, engaged in their routines (watering, wildlife scaring, harvesting etc) interacting with each other co-creating meaning and learning together, from each other, is where the epistemology and ontology of CoP framework is grounded in. However, as noted earlier that CoP's assumption of an epistemology and ontology is grounded in shared practice it is not a mistake to assume there is some ongoing learning involved. Therefore, if this assumption is drawn back to the case it will apply that when *Chipembere* gardeners engage in their daily routines, i.e. watering, pest control, harvesting they will be learning and this kind of learning is worthy

investigating. Therefore, it will be of importance to investigate how CoP theory might help explain such learning explored in the next section.

2.3 Learning processes in a Community of Practice.

As mentioned above it is of great importance at this juncture to understand the proposed learning processes that are embedded in a Community of Practice and to explore how this framework contextualizes these learning processes. According to Lave and Wenger (1991), learning is more than acquisition of knowledge by individuals or as a result of learning rather: it is a process of social participation which also include participation in a community of practice. And that participation,

> "refers not just to local events of engagement in certain activities with certain people, but to a more encompassing process of being active participants in the practices of social communities and constructing identities in relation to these communities" (Wenger, 1994, p. 4).

Drawing on the core process of Lave and Wenger's theory, Pesanayi (2008) approaches learning in a community of practice as legitimate peripheral participation (LPP). This is a process whereby newcomers or novices gradually gain identity in their new community by observing the experienced 'old timers' engaged in the practice, and then through co-participation they take on some of the tasks. (It is worth noting that LPP also applies to experienced individuals joining a community of practice). Learners inevitably participate in communities of practitioners therefore, initially people join Community of Practice at a peripheral level and as they become more legitimate and competent they move to the centre of participation in that particular community as explained below,

> "Learners inevitably participate in communities of practitioners and … the mastery of knowledge and skill requires new comers to move toward full participation in the socio-cultural practices of a community. "Legitimate peripheral participation" provides a way to speak about the relations between newcomers and old-timers and about activities, identities, artifacts and communities of knowledge and practice. A person's intentions to learn are engaged and the meaning of learning is configured through the process of becoming a full participant in a socio-cultural practice. This social process indeed it subsumes, the learning of knowledgeable skills (Lave & Wenger, 1991, p. 29).

However, it is worth noting that there is a common theme on the assumed learning processes in a community of practice in Lave and Wenger's (1991) Community of Practice framework and in Wals' (2007) Social learning framework. This common theme lies in participation of diverse role players aimed at achieving certain common goal(s) or finding a shared decision on a persistent problem. Smith (2003) argues that this is explicitly evident in Lave and Wenger (1991) when they argue that, learning

is a result of increased participation in communities of practice and it evolves within a continuously renewed set of relations. Furthermore, Tennant (1997) commenting on the same notion notes that, it is the full participation and co-generation of meaning that sustains communities of practice. Therefore, it is worthy to explore on the assumed learning process using Social Learning theory (Wals, 2007). This enabled me to begin to think about the learning processes within the *Chipembere* gardening project as social learning around shared concerns within a community of practice held together and sustained by a shared purpose. Hence Social learning theory will be discussed in depth with the view to investigate and define the assumed learning process in *Chipembere*.

2.4 Community of practice as a site for social learning

This research study assumed that there is some learning process within communities of practice and this has influenced the decision to explore more on social learning theory. Therefore, in this section I will review literature on social learning to describe and explain features of the learning process that are assumed in communities of practices such as *Chipembere* gardening project.

Drawing from researches working with social learning perspectives in African settings, for example Pesanayi (2008 & 2009) and Downsborough (2009) it is notable that community-learning contexts are diverse. They note how origins, status, cultural and historical backgrounds are all shaping influences on patterns of activity amongst those legitimately involved in agriculture and communal nutritional gardening projects. These communities were evident to highly esteemed learning opportunities in their farming practices. Notable here were not only the shared practices but also historical memories, story sharing over time and integrating old practices into the new system. Hence, the reason this literature review seeks to explore social learning literature to enrich our current understanding and inform us on how social learning can be investigated in a CBNRM initiative like *Chipembere* community of practice.

Bearing in mind Wals' (2007, p. 36) promise that, "if this kind of learning is properly facilitated, knowledge, values and action competence can develop in harmony to increase an individual's; a group's or network's possibilities to participate more fully and effectively in the resolution of emerging societal issues". This perspective notes how communities of practices are important since they promise us health grounds or platforms for social learning processes of change to happen. Furthermore, the Community of Practice concept also helps us to visualize how, what appears to be normal communal cooperatives might be more than just a group of women gathering to work together in a garden. But as a Community of practice striving to achieve stipulated goals and maintain their identity they learn through their shared *repertoire* and practice, their interactions and from their life experiences.

The reason why the community of practice perspective is of great importance to this study is because

of the way that it allows us to probe the more integrated learning opportunities within a group working together for a common purpose. Therefore, there is need to equip environmental Educators in Wildlife Environment of Zimbabwe with current understanding of Social Learning concepts and this concept will be defined and explained in detail in the next section.

2.5 Defining Social learning?

It is worthy to note that this study recognizes the fact that social learning is a relatively new arena of research in the fields of Environmental Education, Natural Resource Management and Human Development (Lotz-Sistika, 2012). Cundill and Rodela (2012, p. 12) in their social learning paper, "searching for coherence" note how "social learning has become ubiquitous in natural resources management" and has been constituted differently in natural resource management. Drawing on this widening perspective on learning, this study does not aim at defining social learning but rather to investigate on how social learning literature can best describe and explain the learning that is assumed to be situated in Community Based Natural Resource Management initiatives such as *Chipembere* Community of Practice.

Reed, et al., (2010) enlightening us, on the contrasts in social learning literature when it comes to working with social learning and its meanings in Natural Resources Management (NRM) settings. For instance, Reed, et al., (*ibid)* highlights how early work in NRM field has conceptualized social learning as individual learning that takes place in a social context and is influenced by social norms. However, they further argue that, this conceptualization is vague and less useful since most learning takes place in some social context (Reed, et al., *ibid*). A more Interesting and liberal conceptualization of social learning is from Wals and Heymman (2004, p. 39) where they argue that, "social learning can happen at different levels, for instance at individual; group or organization level; or at the level of networks of actors and stakeholders".

To add on to the developing conceptualization of social learning in the field of Natural Resources Management, Keen, et al., (2005b, p. 4) as cited in Reed, et al., (2010, p. 4) defines social learning as "… the collective action and reflection that occurs among different individuals and groups as they work to improve the management of human and environmental interrelations". In their case, Reed, et al., (2010, p. 2) argue that "literature conceptualizes, often implicitly describe, social learning as a process of social change in which people learn from each other in ways that can benefit wider social-ecological systems". To round up on the diverse understandings and defining of social learning, Reed, et al., (2010, p. 2) gave a short explanation of various definitions and their underpinnings when he highlight that,

> "originating from concepts of organizational learning (Argyris & Schon, 1978; Senge, 1990; Wenger, 1998) the second school of thought is informed by social theories of learning, which define learning as active social participation in the practices of a community (Lave & Wenger, 1991; Wenger, 1998) and emphasize the dynamic interaction between people and the environment in the construction of meaning and identity (Muro & Jeffrey, 2007)".

However, Glaser (2007) note that, social learning can be in two forms namely, active and passive such that, in the later individuals do not withdraw their knowledge from question and interactions within their community of practice but rather they are more reserved. Whereas, in active social learning it supports triple loop learning "which can be used to question both existing practices and the values that underpin them" (Glaser, *ibid* p. 18). To add on, Reid and Nikel (2008) also note that, active learning requires active participation of learners which is achieved through extrinsic and intrinsic motivation or engaged participation (p. 39). United Nations Environment Programme (UNEP) (2006) further describes active learning process as; learning by doing, discovery learning, hands-on learning, or experiential learning. What is more pronounced in this work on learning is that learners (in a Community of Practice) become "socially, culturally and cognitively involved in a reflexive learning process" (UNEP, *ibid*). Hence, investigating social learning processes within *Chipembere* gardening project will give useful insights on how gardeners engage or participate within the project. And this will also elaborate on how *Chipembere* gardening project as a Community of Practice enables active learning processes which are essential for social learning process.

Since this research project aim at investigating social learning in communities of practice like *Chipembere* gardening project and how they can enable social learning processes to happen among its gardeners. Recognising the emerging diversity in perspective, for the purpose of this study, I use Wals (2007, p. 18) definition, viz. that social learning is "learning that takes place when divergent interests, norms, values and constructions of reality meet in an environment that is conducive to meaningful interactions". It is worthy to note that Wals (2007) definition of social learning is in agreement with Lave and Wenger (1991) perspectives on social learning when they further describe, it as a process which takes place in a participatory framework and not in ones' individual mind.

However, when applying the above descriptions of social learning perspectives to this study, it is when women continuously meet in their garden, doing their routines, sharing knowledge, tools, materials, learning from each other. And co-learning from persistent uncertainties, challenges as well as developing shared decisions and practices, that we can say the mode of learning has an element of social learning. Therefore, this is the reason why it is important to further this study. Furthermore, a

detailed exploration of the underpinning social learning frameworks /theories will help us to figure out and understand the embedded learning processes within *Chipembere* community of practice and to appreciate how the gardening project can enable social learning processes among its participants. Furthermore, Pesanayi (2008) drawing from his case and Janse van Rensburg and Lotz-Sistka (2000) notes that, social learning is appropriate because it takes account of the role of culture, context and language, which are inherent in the communities under study. Therefore, in the next section, Social learning theory will be discussed in more depth with the intention to more fully frame the learning processes that are assumed to be constituted in *Chipembere*. This will equip us with relevant knowledge in investigating learning processes in such communities of practice.

2.5.1 Wals' Social learning theory

Social learning as noted by many scholars is a process (Bawden, 2004; Keen et al., 2005; Wals, 2007). Vandenabeele and Wildemeersch cited in Wals and Heymann (2004, p. 9) "recites social learning as a collaborative reframing process involving multiple interest groups or stakeholders, and is located in the multitude of actions, experiences, interactions and social institutions of everyday life." And this understanding of social learning as a reframing process resonates very well with Wals (2007, p. 18) social learning theory. This study gave me a working definition of social learning as, "learning that takes place when divergent interests, norms, values and constructions of reality meet in an environment that is conducive to meaningful learning".

In his social learning theory Wals (2007) proposed that it is diversity among community of learners that bring about dissonances, conflicts ambivalences to mention a few. And if this dissonance and conflicts is managed properly brings about meaningful learning (Apple, 2007; Bradbury, 2007; Glasser, 2007 cited in Wals, 2007). Therefore, Wals' (2007) social learning theory relates well to the case since *Chipembere* gardening project is comprised of women of diverse origins, cultures and historical backgrounds as explained earlier in chapter one. Hence, it is likely that the case may pose excellent opportunities to social learning processes.

Furthermore, he argues that, it is the diversity in participants that brings about, "frame awareness" (Wals, 2007, p. 41), in which "learners realize ones' own frames relevant to key issues or challenges" (Wals, *ibid,* p. 41) and through the process of, "verification, clarification" (Wals, *ibid,* p. 41) and exposed learners are socially and morally challenged and they realize their own hidden assumptions, knowledge based on historical memories, social backgrounds, ideological underpinnings and the resulting blinding insights they provide (Wals, *ibid,* p. 41). In this process learners are shaken off their comfort zones, henceforth, Kaufman and Smith (1999) as cited by Wals and Heymann (2004, p. 11) forwards, processes of frame awareness, frame deconstruction and re-framing as the central steps in transformative social learning. Wals and Heymann (2004, p. 10) further, describes deconstruction as,

"a change process resulting from a critical analysis of ones own norms, values, interests and construction of reality" and re-framing or reconstruction as, "exposure to alternative ones and construction of new ones."

Wals' (2007) Social learning framework can be represented as 6 contours and these can be presented in a linear expression or in stages or phases although this research neither claims that learning is a linear process nor does it happen in linear stage/phase format. However, for purposes of understanding the framework I will also present the framework in stage or phase format just like how prior researchers such as Downsborough (2009) and Pesanayi (2009) did, who researched in similar research contexts using the same Wals' (2007) Social learning framework. Therefore, 6 contours to social learning can be summarized as:

a) *Orientation and exploration* –key actors and key issues or challenges are identified that might connects with prior experiences, history, memories, and social backgrounds increasing learners' motivation and sense of purpose.
b) *Self awareness* -learners realize ones' own frames relevant to key issues or challenges
c) *Deframing or deconstructions* –articulating and challenging one's own and each other's frames through a process of clarification and exposure to conflicting or alternative frames.
d) *Co-creating* –joint (re)constructing of ideas, prompted by the discomfort with one's own deconstructed frames and inspired by alternative ideas provided by others
e) *Applying or Experimenting* –translating emergent ideas into collaborative actions based on the newly co-created frames, and testing them in an attempt to meet the challenges identified.
f) *Reviewing* –assessing the degree to which the self determined issues or challenges have been addressed, but also a review of the changes that have occurred in the way the issues or challenges were originally framed through reflective and evaluative process. (Adopted from Wals, 2007, p. 41)

However, in order to observe and understand these 6 contours or processes of social learning is not easy task. Wals (2007, p. 41) reminds us that in real contexts, it is difficult to capture social learning as "a neat process or cycle" but as "sequential moments or activities" and these might be helpful in designing and monitoring social learning processes in a community (Wals & Heymann, 2004). Therefore, notably in the above statement Wals (2007, p. 41) describe Social learning as a process or a cycle which may relate that the contours/processes of social learning, "can be distinguished but they are hard to separate in reality since they interrelate and overlap". Furthermore, the above contours, "suggest a linearity" although "social learning is more of an on going, cyclical and emergent process" (Wals, *ibid*, p. 41)

Drawing from the above discussions it can be noted that the key concept of Wals' (2007) social learning theory is grounded in the diversity of participants or stakeholders and in differing ideas which is challenged by their participation towards a common goal in a community of practice. Hence, Wals argues diversity in participants as the keystone to social learning and if perpetuated properly it yields

quality learning *(*Wals, *ibid*). Furthermore, in his earlier work with Heymann (2004, p. 10) diversity in participants strongly holds but he clearly outlines that, the learning process is greatly enhanced when the learner is mindful and respectful of other perspectives. Therefore, success in social learning does not sorely lie in the diversity of participants but in "space of dialogue" among participants and this dialogue "requires stakeholders involved *can* and *want* to negotiate as *equals* in an *open* communication process which *celebrates diversity* and *conflict* as the driving forces for development and social learning (Kunneman, 1996; Wals & Bawden, 2000 cited in Wals and Heymann, 2004, p. 10).

Kunneman (1996); Wals and Bawden's (2000) observation is of great importance it relates much to this research since social learning does not happen in a vacuum but requires a "space of dialogue" and this dialogue "requires stakeholders involved *can* and *want* to negotiate as *equals* in an *open* communication process which *celebrates diversity* and *conflict* as the driving forces…" (Wals & Heymann, 2004, p. 15). Hence, this dialogue space requires a particular people with a defined goal(s), objective(s) who intend to achieve a certain outcome and this could be described as a Community of Practice (CoP) for example *Chipembere* gardening project. Therefore, at this juncture it's of great importance to consider CoP theory (Lave & Wenger, 1991) as instrumental in describing and explaining how these "spaces of dialogue" are formulated, maintain their identity and are continuous as a shared domain. However, there are several ways people learn and it is of significance to explore forms of learning and this may equip us with the terminology and raise our current understanding of learning. Therefore, in the next section I will discuss learning forms but mainly restricting the discussion to the acquisition and participatory metaphors to learning.

2.6 Learning metaphors in communities of practice.

Sfard (1998) proposed two major learning metaphors namely *acquisition* and *participatory* metaphors which are fundamental to learning process. She defines acquisition metaphor which can also be referred to as "cognitive concept development" as a process whereby, people acquire or gain possession of knowledge and she argues that this process gives an impression about the human mind as an "empty container to be filled with certain materials and the learner becomes the owner of these materials" (Sfard, 1998, p. 5). Where as in a Participatory metaphor is whereby, learning is viewed as a process of, "becoming part of", "taking part", and "being a part" of a greater whole (Sfard, *ibid,* p. 6). This notion of learning resonates and relates well with the social learning theory, conceptualized in this research study.

However, Sfard (1998, p. 8) note that, if knowledge is viewed as an acquisition with material wealth in mind it is likely to create societal class whereby, acquisition is now regarded as an attribute to position and power in a community creating a: "non-together"; "self centered"; "social attitude toward

knowing, creating and learning", which usually feeds into rivalry than collaboration. Whilst on the other hand, if there is democratization of learning, it is likely to bring about togetherness, solidarity and collaboration within a community (Sfard, *ibid*, p. 8) which is more observable in a participatory metaphor. Furthermore, she also argues that, metaphorical pluralism of learning will result in better informed and powerful, more satisfactory research (Sfard, *ibid*, p. 10). And this is important to this research study since the assumed learning process in *Chipembere* community of practice can happen in the metaphorical pluralism as explained above.

2.6.1 Learning as a participatory metaphor.

Diversity in participants and participation has been the key concept in all the two Social learning frameworks namely Wals (2007) social learning & Lave and Wenger (1991) Community of Practice framework. However, Sfard (1998) describe learning by participation as a participatory metaphor. Therefore, this calls for an in-depth understanding of learning by participation in order to clearly understand the kind of learning that is happening in *Chipembere* community of practice.

Current literature describe learning as, a life-time process which does not have a beginning or an end (Sfard, 1998; Wenger, 1998; Smith, 2003) and many recent scholars are of the view that, learning is brought by continuous involvement and participation in a community (Downsborough, 2009; Pesanayi, 2009) and it involves co-creation of ideas and meaning through practice (Wals, 2007). However, learning is inseparable from practice, "Learning is an integral aspect of activity in and with the world at all times" (Lave, 1996, p. 8). Wenger (1998, p. 7) furthers this view when he highlights that: "For *individuals*... learning is an issue of engaging in and contributing to the practices of their communities. For *communities*... learning is an issue of refining their practice and ensuring new generations of members". In this light participation is conceived as a process of becoming a member of a community (of practice) i.e. in nutritional gardening, whereby, a new comer is expected to communicate in the language of the community, act accordingly to particular norms which are normally negotiated in the process of consolidation and learners become potential reformers of the practice (Sfard, 1998, p. 8).

However, Scott and Gough (2008) in Reid et al., (2008, p.81) warns us on the diverse use and derivation of meaning when exploring the term participation in EE and environmental learning (EL), they note that, "people and groups who promote or encourage environmental learning and education can have widely-differing assumptions about both its purposes and processes and about participation by learners in both their learning and hence in any social action they may take". However, it should be noted that participation has two different meaning; *deltagelse* which implies "to take part in" and *medbestemmelse* which implies, "to be involved in decision-making and to have a say" (Reid, 2008, p. 188). In this context pluralism of participation is adopted, therefore, participation is defined in its

pluralistic which means it is conceived as the act of "becoming part of", 'taking part in", "being a part of" or "being involved in or with" and in this sense whether as an active or passive actor in that community (Reid, *ibid*, p. 188). Therefore participation is defined as a process of being active participants in the practices of social communities and constructing identities in relation to these communities (Wenger, 1998).

Diverse researches in the field of environmental education have shown evidence of learning processes through participation in communities of practices through their "mutual engagement, joint enterprise, and shared repertoire" (Pesanayi, 2008 & 2009; Downsborough, 2009; Masara, 2010). Furthermore, scholars are at an agreement on the notion that learning is brought by participation and learning brings about participation, (Pesanayi, 2008 & 2009; Downsborough, 2009; Masara, 2010), this assertion was also supported by Scott and Gough (2008, p. 85) when they said … "all demand participation because all involve learning - and all learning involves participation" hence the two are intertwined and inseparable. Furthermore, McLachlan and Arden (2009) noted that:

> There is an experiential learning that occurs for the practitioners and participants over time by virtue of their sustained participation …that serves to build a culture of learning, foster insights and enhance the structures and processes that facilitate and account for this learning for diverse participants in diverse ways.

Garlick and Langworthy (2004); Kilpatrick, Jones and Barrett (2006) also found this to be the same in their researches. Hence, this research is guided and informed by the above-mentioned learning metaphors in exploring the assumed learning in *Chipembere* community of practice as well as in investigating how this project can enable social learning process among its gardeners.

2.7 Conclusion

The section has highlighted and discussed on the three key concepts of this research study namely Community Based Natural Resources Management, Community of Practice and Social learning. This section has done its purpose that is, to draw from relevant literature that speaks to my research objectives and tries to answer my research questions. Therefore, the section has laid up a foundation for chapter three. In essence this meant that chapter two provided some wider theoretical perspectives to the research questions thereby informing further areas of research and some insights on how social learning can be investigated. Hence, the next section (chapter three) will build on this laid foundation (chapter two) and will utilize gained knowledge to investigate the assumed learning within the case.

Chapter 3

Research Methodology

Introduction

Chapter three is a methodological chapter which provides detail on the research design decisions. This chapter thus introduces readers to the research methods and tools used in the actual data collection and analysis. It justifies why these methods and tools were used and gives a detailed account of when and how they were used in the case. The chapter further describes how the gathered data was maintained, stored and managed during and after the data collection process. It will further describe and explain how data analysis was done and answer to data validity, trustworthiness and research ethics questions. In essence this chapter will prepare for the data presentation in chapter four.

3.1 Qualitative research paradigm

This research was designed and conducted qualitatively within an interpretive perspective to "make meaning that people make out of the phenomenon" (McMillan & Schumacher, 2006, p. 317). An interpretive approach was appropriate in my research because it allowed for a deeper understanding of the assumed learning process within *Chipembere* gardening project by the researcher learning through interaction with the case. This tradition allows a researcher to assume that people's subjective experiences are real and should be taken seriously and that we can understand other's experience by interacting with them and listening to what the tell us (McMillan & Schumacher, *ibid*). Working with the above understanding, the research design allowed seeking deeper insights on *Chipembere* gardener's experiences, beliefs, practices by interacting with them and taking their experiences, practices, beliefs seriously to interpret how they are learning and how this gardening project enables fruitful learning processes in this case study.

3.2 Case Study method

A Case study approach was used to explore and investigate the processes of learning embedded in *Chipembere* Gardening project. Yin (2009) describes a case study approach as, an in-depth investigation of an individual, group, incident, situation or community giving detailed account of the case under scrutiny. Furthermore, Stake (1995) cited in Schwandt (1997) emphasizes that, the foremost concern of case study research is to generate knowledge of the particular. It is thus more concerned with particularization than generalization, providing interpretive insights in that unique context. This relates well to my research purpose since I intend to generate ideas and draw recommendations that could be used to promote social learning in emerging and already existing projects in my workplace. The research therefore seeks to discern and pursue understanding of intrinsic issues within the case

itself and in this case the intrinsic being how people are learning and how the garden-based activity is playing out to provide a space conducive for learning. Finally a further concern is how the assumed learning is happening and shaping the gardening practices so as to provide benefits and food security to the community in this case.

In this research all the shortfalls and complexity of case study as a methodology are observed and acknowledged for instance, high risk of subjectivity among others. However, despite all these shortcomings case study method is vital and instrumental to my research study since it allows interaction with the case offering an investigation and interpretive space within the particular therefore, it still holds a pivotal position in my research methodology. Flyvbjerg (2006) reminds us that, "the decisive factor in defining a case as a case study is the choice of the individual unit of study and the setting of its boundaries, its "casing" to use Ragin's (1992, p. 217) "felicitous term". Therefore, in this light my case study is *Chipembere* gardening project and in this I include all the interacting internal or the 20 constitutional members and all external or non-constitution members interacting to improve or shape the gardening practices within the community garden.

A case study method is appropriate to this study because it allows the researcher to investigate a phenomenon within its real context. Of importance to me is to clearly understand the processes of social learning assumed in *Chipembere* gardening practice by interpreting their gardening practices as a group/community (Gillham, 2000a, p.1). The case study method has allowed understanding of the case as a context/pool rich in social learning interactions. It has helped in further probing how these assumed social learning processes have shaped *Chipembere* gardening practices. Furthermore, a case study method was chosen because of it allows a researcher to "comprehend more detail, richness, completeness and variance that is depth for the unit of study" (Flyvbjerg, 2001, p. 301). Lastly given the nature of the research and the interpretive approach adopted in this research, a case study method was more appropriate because it provided a systematic way of collect data, analyze data and report the results of a particular (Stake, 1995).

3.3 Data Collection process

Data collection is a process involving the actual interaction with the case and developing a research relationship with the participants (Yin, 1993). During this process it was difficult to keep onto laid out time frames and schedules however, as data collection was on an implicit learning process. Data collection was done as diagrammatically presented below;

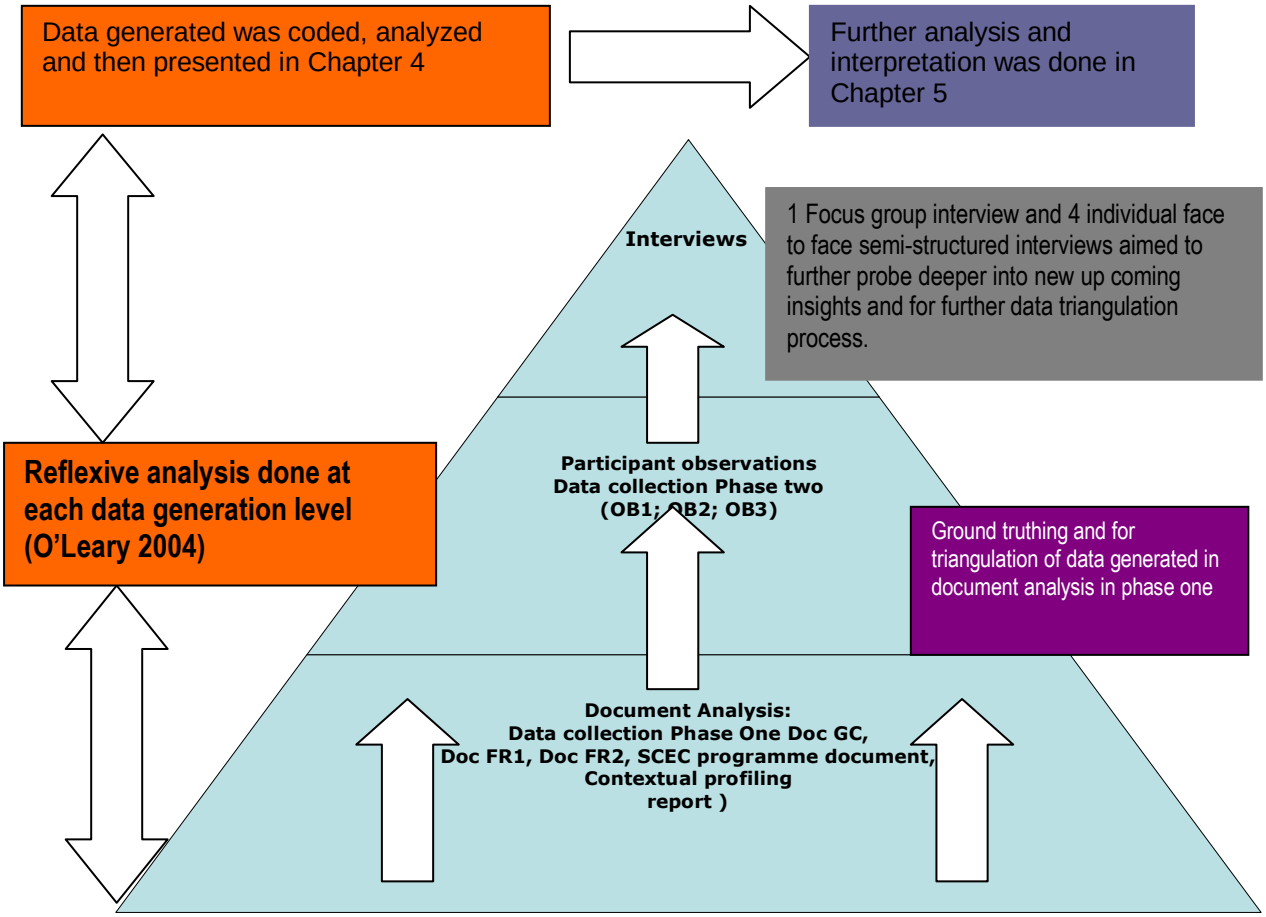

Diagram 1: Graphical representation of the data collection process (*adapted from* O'Leary, 2004)

Data collection process was conducted in three phases as shown in the diagram (O'Leary 2004). The first phase involved acquiring permission and access to documents sources such as Garden Constitution document, field reports and revisit to the contextual profiling reports and analyzing them. The second phase was a ground truthing and data triangulation process. This involved verification and further probing into insights gained from document analysis through three participant observations. Lastly the third phase was a further verification, member checking and data triangulation process through one focus group interview with six purposefully chosen gardeners across seniority and experience and four individual face-to-face semi-structured interviews. However, through out the research process data management was a priority taking traceable records of data, indexing, transcriptions, translations and lastly preliminary and reflexive data analysis were done (O'Leary, 2004) through the coding system. This process provided the needed foundation for data presentation in chapter four and a further analysis of data in chapter five.

As highlighted in diagram 1 above data collection process was conducted in a systematic manner with visits to context and with appropriate appointments being made with participants. This also included piloting of research instruments and then developing the research schedules. The data collection process thus unfolded accordingly to the below laid schedule in table 1 below and a detailed account of the data collection and methods used will be given in the next sub-sections to follow.

Date	Data collection technique/method	Procedural process
11 March 2011 11 March 2011 11 March 2011 11 March 2011 01 May 2012	Research consent	• Prior visit to *Chipembere* gardening project • Official introduction to the case & built of research relationship. • Introduction to research topic, goals, objectives & their role in the research • Seek permission in form of consent letters • Permission granted & received all the consent letters
11 March 2011 17 March 2011	Document analysis	• Seek permission to access & use of Garden constitution (Doc GC); Field reports (Doc Fr1, Fr2 & Fr3). Contextual profiling report. • Permission granted & received the documents
18 August 2011 26 August 2011 04 October 2011 05 October 2011 01 November 2011	Participant Observations	• Permission & prior visit communication • Actual Observation (OB1) • Prior communication • Feed back received • Actual Observation (OB2) • Prior visit & seek permission

29 March 2012		• Actual Observation (OB3)
01 May 2012 15 May 2012	Individual semi-structured interview	• Prior communication • Actual interview (FGI)
15 May 2012 15 May 2012	Focus group semi-structured interview	• Actual interview (IPc1) • Actual interview (IEO)
07 June 2012 22 June 2012	Individual semi-structured interviews	• Prior communication Actual interview (ICD4
30 July 2012 02 July 2012		• Prior communication • Actual interview (IPvc1)
01 September 2012 06 September 2012	Preliminary result discussion	• Prior communication • Member checking discussion

Table 1: Research schedule.

3.3.1 Document analysis

Document analysis formed part of my data collection process and it was used to concretize on the contextual profiling work done in the 1st phase of the research. I did a systematic review of documents such as contextual profiling study reports, relevant project documents such as gardening project's constitution, meeting minutes, duty roasters and SCEC programme document and interim field reports. Although these documents were too slim and of less quality since there were non-published sources. Patton (1990) note that programme documents of this nature serve two purposes: they are a basic source of information about the programme decisions, background and involved activities. Secondly, they can give investigator or researcher ideas about important questions to pursue through more direct observations and interviewing. Indeed Patton's (1990) observation was of great importance to this study since analysis of above mentioned documents provided excellent contextual information of *Chipembere* gardening project and also provided insights on how the people participate, interact, use

language to record, communicate or think and lastly to "capture activities researchers are unable to observe directly" (Aipinge, 2007, p. 37 cited in Zazu, 2008).

Analysis of Sebakwe Conservation Education Centre's programme document, contextual report and garden constitution document was done to gain more understanding into the project's emergence, domain, practices or functions, stipulated conditions to participation and sustenance factors. It was also used to figure out day-to-day management of the project and to postulate how people interact among themselves as well as with the outside world. Furthermore, it was to ground truth the stipulated objectives and outlined practices with the real or actual day-to-day running of the project or practices. Hence document analysis provided a space of critiquing the intended versus the real and to further clarify some contradictions surfacing from other methods. Therefore, this compatibility and complementary efforts of this method made it more suitable and vital for my research. Document analysis process will be discussed in detail in sub-sections to follow.

3.3.1.1 Contextual profiling report

A review of the contextual profiling report which was done and submitted by the Researcher as an assignment. The review involved revising of Sebakwe Conservation and Education Centre's (SCEC) programme document, its organizational policy, its mandatory and main objective in establishing and supporting such community based natural resource management project. Therefore, this contextual profiling provided a wide understanding of the Organization's objectives which was also crucial in its expectations. Hence, SCEC programme document gave insights on some questions to pursue and provided background information on the formation and how the project came to be what is today. Going through such report helped to answer some of my research goal that is to gain insights and deeper understanding of the emergence of the gardening project.

Furthermore, contextual profiling process also involved review of Chipembere gardening project's documents which included Garden Constitution and duty roasters among others. Permission to access and use of such documents was sorted first as highlighted earlier on (see table 1 for dates). However, it is important to mention that the constitution document was a hand written document which I returned before I even scanned it. Nevertheless, I wrote a thick description on the constitution document (Appendix 4). After realizing the need to systematically analyze this document through my analytical tool and properly appendix it I returned to *Chipembere* committee only to find out that the constitution was misplaced and instead I was given a new garden's Constitution document which I later worked with. Although these documents were not different the rewritten one was even better since I even managed to get an electronic copy and this made my data analysis much easier and convenient. But for sake of validity and trustworthiness I resorted to the use of both the thick description report from the earlier version with the current rewritten constitution document. In data analysis process the Garden

Constitution was indexed as Doc GC (see Appendix 5) and was analyzed through all my 3 analytical memos.

Furthermore, gardening duty roasters were part and parcel of the contextual profiling analysis. Of interest was the fact that duty roasters were written at the back of the old Garden Constitution document. And this document was misplaced as reported earlier however, when I requested the roasters the gardeners couldn't give tangible roasters except of recalling from their memories. Because of lack of data trustworthiness and validity I resorted to participant observations to asses how duties were allocated and the allocation process.

3.3.1.2 Project's meeting minutes

A review of two meeting minutes of the gardening project was done to figure out the actual activities, arising problems, conflicts and how the participants resolved it. These meeting minutes gave a true reflection of the day-to-day activities, constraints, challenges and opportunities to learning.

However, meetings were done every Thursday of the week but of interest not all meetings were recorded and what they called meetings in some cases differ from actual formal meetings. Most of their meetings were informal and were never recorded, and for the purpose of this research I looked at two recorded meetings appropriate to my research interest and I wrote a summary of the proceedings though they were also lost together with the Garden constitution document. A review of the gardening project's meetings helped in enlightening the domain of the project, and they provided relevant detailed information in contextual profiling of the garden project. They also gave clear, real context information on the practices and occurring or recurring problems and how decision is reached in the project. These meetings gave a track of the real interactions, contacts and activity schedules and clearly spell out who does what.

3.3.1.3 Field reports

Analysis of two Sebakwe Conservation and Education Centre's (SCEC) field visit reports on *Chipembere* gardening project was done to strengthen data richness of my research study. These two field visit reports were scanned and indexed Doc Fr1 & Doc Fr2 respectively (Appendix **6** & **7**). The scanned copies Doc Fr1 and Doc Fr2 were analyzed using line-shading system on a paint programme using the three analytical memo coding system devised for this research study. Line shading was used because since the field reports were scanned in Ms Picture Manager Format proper coding system was difficult.

3.3.2 Participant observations

According to Alder and Alder (1994, p. 389) cited in Angrosino and Rosenberg (2011) Participant

observation is "the fundamental base of all research methods" in the social and behavioral sciences. In this research participant observations were done to generate rich, real and relevant data from the case. This involved the actual visit to the project site, observing and taking photographic evidence, notes (Huysamen, 1994, p. 169). Furthermore, this provided an opportunity to observe how people learn, evidence of learning, the actual activities that make up the project (Flyvberg, 2001) and how this project can enable social learning to take place. Participant observation offered opportunities to interact with the gardeners, be part of the gardening project proceedings and practices. And theses opportunities helped me to fully understand complexities and opportunities to learning within the case. The opportunities also offered a chance to validate participant assertions, verify or triangulate insights from document analysis and to develop in-depth understanding of the community itself and beyond their practice.

Patton (2002, p. 22) supported participant observation method and argue that, "observational data, especially participant observation, permits the researcher to understand a programme or treatment to an extent not entirely possible using only the insights of others obtained through interviews". Therefore, they argue that, the method can also be very useful in filling up data acquisition gaps by providing important information that you can hardly acquire from discussions, interviews and other methods (Patton, 2002). Manion and Morrison (2007, .pg 246) further highlights that observations, "offers the investigator an opportunity to gather "live" data from naturally occurring social settings, the researcher can look directly at what is taking place in situ rather than relying on second hand accounts". Hence the reason why I chose this method since my research requires real interpretations and to take account of the actual learning interactions within the *Chipembere* gardening practices which is a "live" project.

However, it is worth noting, the potency and pervasiveness of the post modernism critique of the traditional assumption about objectivity in participant observations (Angrosino & Rosenberg, 2011, p. 467). It is important to mention that in my data collection process objectivity has always been my worry and threat to validity and trustworthiness of my study. This is because as already said in chapter one, *Chipembere* gardening project are women I have been working with ever since before the gardening initiative and they view me as one of the pioneering team and because of such experience and relationship built over three years now they no longer regard me as a visitor rather as part of their garden member and advisor to their gardening practices. Hence it was totally difficult to distance myself and treat them as "subjects" rather as "active partners" who would even involve me in their interactions equations or decisions (Angrosino & Rosenberg, *ibid*, p. 467). However, Angrosino and Rosenberg (2011) enlightened me and totally influenced the way I did my participants observations when they argues that,

> "in a very important sense, we now function in a context of collaborative research in which the

> researcher no longer operates at a distance from those being observed. The later no longer referred to as "subjects" of research but as active partners who understand the goals of research and who help the researcher formulate and carry out the research plan" (p. 467).

Furthermore, Simpson and Tucker (2003) provide very useful insights when doing observations and they warn us on how conducting observations can be very demanding in terms of time and effort. However in my case I resorted to one case study and strategically planned my observations to fully use organizations' limited resources. They further notes, susceptibility to biasness which might occur because the observer records what he or she thought occurred rather than what actually took place or because of the researcher's lack of attention to significant events (Simpson & Tucker, 2003).

To minimize research biasness I worked with some research assistants whom I oriented to the purpose of the study, preliminary insights from document analysis and specific research questions the research seeks to answer. The orientation process was self-reflexive and involving since they took part in the initial piloting of the observation schedules on *Chipembere* gardeners. In total we did two participant observations piloting one prior to the orientation and the last one after orientation. During the last orientation process we role played in our organization's garden with present members included. In this we created some scenarios and asked the assistants to record and later interpret the scenes. This together with the other complementing methods used helped to clarify and clear off the bias though it could not be hundred percent ruled out.

As mentioned above participant observation pilots and schedules' review were done with the help of four assistant observers. The assistant observers were aware and really understood what was supposed to be looked for. Assistant observers were capturing scenes of gardeners' interactions looking for evidence of dissonance, conflicts, teamwork and evidence of problem solving. Assistant observers would also listen to the gardeners' conversation recording incidence of exploration, self awareness, deframing, reframing/co-creation plans for applying gained knowledge and reviewing of current and past practices. Whereas, the other two assistant photographers helped by photographing scenes on the workshop proceedings. They would also watch out for evidence of social interactions within the gardening practices. However, all the gathered data was synthesized into one participant observation report and indexed accordingly (OB1, OB2 and OB3).

However, it is worthy to highlight that things didn't go as planned. There were surprises, challenges and opportunities in this research process. For instance, in conducting my observations I faced a challenge to meet and observe all *Chipembere* gardeners at once. This was mainly attributed to community politics, role sharing and division of labour among the women as highlighted earlier on.

Such that the very day I went for a participant observation (OB3) the women split into 3 groups in which one group attended to their usual Thursday garden meeting whilst the other two went to piggery and community road construction projects respectively. It was a difficult decision but I decided to observe the present participants since I felt I will never or it was going to be difficulty to find all these gardeners in one group and in the garden. And because my research is a case study approach "casing" my research area was the garden (Ragin, 1992 p. 217 cited in Flyvberg, 2001, p. 301) which means I was more interested in the interactions within the garden and what ever happens else where was of less importance to me hence I never did any observations out of the garden or in other projects these same women were involved in such as poultry or piggery.

As already mentioned in table 1, I conducted three participant observations indexed OB1, OB2 and OB3 respectively (Appendix 8, 9 and 10). And these were my first ever field research contacts with my participants and it was a learning process, separate research schedules were produced for each observation process.

3.3.3 In-depth interviews

I conducted face-to-face in-depth interviews with four participants purposefully selected from a pool of participants (Patton, 1990; Yin, 2009). The four participants were selected across managerial and seniority structures of the gardening project which Yin (2009, p. 106) referred to as "data rich" respondents. The interviews were semi-structured. Frey and Oishi (1995) define semi-structured interview as a face-to-face purposeful conversation in which one person ask prepared questions (interviewer) and another answers them (respondent).

In-depth interview is highly recommended by Frey and Oishi (1995) as a very useful technique to gather particular data from a case. Wimmer et al., (1997, p. 156) note that, "semi structured interviews allows researcher to probe deeper into initial responses to gain more detailed answers to the questions". Therefore, four interviews conducted were aimed at probing more detail and pursue further on insights emerging from document analysis and participants observations. They also seek to probe further into the emergency of the project and sustenance of the benefits, which couldn't fairly come out in other methods. Leedy and Ormrod (2005) support this method when they argue that, interviews allow the researcher to investigate and prompt things that one cannot observe.

The four interviews were conducted on different dates and venues depending on interviewee's availability and willingness. This was to ensure that my respondents were more comfortable and don't panic to the interview especially if it is done in an unfamiliar venue. On the day of the interviews usual sitting setups were maintained and interviewees were introduced to new devices which were brought namely audio recorder and a video camera. This was done mostly to eliminate suspicion and

guaranteed confidentiality in my participants. The researcher together with his assistants was dressed in more natural attires which do not distinguish this day's visit with the rest of the days. The main reason we audio recorded the interviews and shot some photographs and videos was for easy data transcription, translations and to maintain interviewee's anonymity. However, because of the need to protect my participants' confidentiality as highlighted earlier the interview's videos were never used for anything else besides my personal use which I explained above.

The audio recorder was a very useful instrument to use since it kept my interviews so simple and flowing without scribbling a lot. Therefore, it made my work much easier and to concentrate more into the details of the interviews and upcoming ideas worthy probing. Furthermore, it captures all the pauses and laughter which is also of great importance when analyzing the data. Through the use of the audio recorder interview transcription process was made much easier compared to scribbling during the interview. However, three of the interviews were conducted and transcribed in Shona and English translation was added in brackets for every statement or response (example on Appendix 12) and the other interview was done in English hence there wasn't need for translation rather transcribing only.

Language proved to be very important. All my respondents were fluent Shona speakers hence it was easy to transverse. Using Shona in my three interviews enabled me to extract detailed and rich data from the three interviewees. In most cases interviewees showed great understanding of the questions and absorbed in the discussion and they were much at easy, confident and comfortable during the interviews. Although language could also be a hindrance especially when people keep on explaining and this can take the interview ages to finish but, in my case, I made sure to keep the interviews short and ask relevant questions to extract much data as possible.

I'm also aware of other scholars' critiques of interviews. For instance Bell (1993, p. 93) identifies it as "a highly subjective technique and therefore there is the danger of bias". Despite this shortfall I found interviews very useful for this study. Leedy and Ormrod (2005) note that through semi-structured interviews one can probe an interviewee's thoughts, values, prejudices, perceptions, views, feelings and perspectives. It is through these interviews that I managed to follow up emerging insights and issues on the garden's emergence, practices and how the people interact within the project. From the observation I did when I was conducting these three in-depth interviews and a group interview in my study was that interviews enabled respondents to have freedom, and engaged in rich conversations in which they could easily conquer fear. The method however, helped in eliminating confusion caused by lack of understanding of the question by the interviewee or lack of understating of interviewee's answer by the interview (Wimmer et al., 1997, p. 156) since there was freedom to pursue deeper or probe further.

3.3.3.1 Focus Group interviews

I conducted one focus group interview with six purposefully chosen participants of all ages from the management committee and non-management members. This was to ensure that my interviewee's team was a true representative of the entire project's members. So this was to include all the powerful, weak and neutral members within the project and give them a chance for a true reflection of their experiences. As mentioned earlier on, just like interviews a focus group interview involves a researcher asking a set of questions to a group of interviewees (Wimmer et al., 1997).

Focus group interview was used as a way of member checking and data triangulation. It seek to further interrogate into the garden's emergence process, gardeners' participation, interactions with each other, conflicts and dissonances involved in their practices which came up in the document analysis as well as observed in participant observations in the context. Dimitriadis and Kamberelis (2005) note that focus group interview offer a particular fruitful method for "thinking through" qualitative research. They argue that, "focus groups are collective conversations or group interviews they can be small or large, directed or non directed" (Dimitriadis and Kamberelis, 2005, p. 558). However, Nichols' (1991, p. 14) insist that, members of the group should be of the same sex and share similar backgrounds in order to rule out any confounding variables. Which I observed in my case since my group interview were all women from *Chipembere* gardening project.

Focus group semi-structured interview was chosen because of its "synergistic potentials and its capacity to produce data that is seldom produced through individual interviewing and observation and thus yields particularly powerful knowledge and insights" (Dimitriadis & Kamberelis, 2005, p. 559). They further argue that focus group interviews take the interpretive process beyond the bounds of individual memory and expression to mine historically sedimented collective memories and desires (Dimitriadis and Kamberelis, 2005).

The most advantageous part of using focus group interview lies in its ability to "capitalize on the richness and complexities of group dynamics" (Dimitriadis and Kamberelis, 2005, p. 559). They also notes that, the method can "induce social interactions that occur in everyday life but with great intensity" and lastly it can afford researchers access to social-interaction dynamics that produce particular memories, positions, ideologies, practices and desire among specific group and to see the complex ways in which people position themselves in relation to each other as they process questions, issues, and topics in focused on" (Dimitriadis & Kamberelis, *ibid*)

Although some evidence of over dominance by other members was observed, most members were more reserved. Since I was directing the group interview I mitigated this dominance effect by assigning some time to the reserved or ask a specific direct question. For instance I would ask; Mrs …,

"Why did you decide to join the gardening project?" In this way I was also extracting from their beliefs, experiences as suggested by Leedy and Ormrod (2005). However, even though I tried out Nichols' (1991) argument for uniformity in a focus group especially gender wise this did not dealt much effects of power relations and dominance effect such to an extend that I observed that without "directing" the focus group interview few individual's ideas and perspectives could suffice and this method would assume the response was majority or democratic whilst the two mentioned above effects were in control (Dimitriadis & Kamberelis, 2005).

3.4 Data Management, Interpretation and Analysis

Huberman and Miles (1994, p. 428) argue that, "data collection, storage and retrieval are an important aspect of the entire process of data management". A systematic approach to data management was applied and this involved data source indexing, folder labeling, interview transcriptions and translating and O'Leary (2004, p. 184) argue that all these tasks are done, "to build or create a 'data set' that can be managed and utilized throughout the process of analysis". Therefore, as explained above data management in my research was done to make data analysis more systematic, rigorous and logical. Data was stored in form of hard copies of data transcripts, interview audio records, photographs of field observations and copies of all the documents analyzed. Wolfe (1992) cited in Huberman and Miles (1994, p. 293) warns us of the importance of data storage and retrieval in qualitative research when he note that, "how data are stored and retrieved is the heart of data management and without a clear working scheme, data can easily be miscoded, mislabeled, mislinked and mislaid".

As argued for by Wolfe (1992) I worked with a research diary in which I recorded what I did on a particular day, what method I used and how it was indexed and coded. The process also included maintenance of all transcribed, translated and analyzed, color-coded transcripts of all participant observations, interviews and documents analyzed in one electronic folder. The folder was labeled with a title linking it to the original source document for instance "FGI analyzed for Memo1". This labeling maintains the original source which is Focus group interview and was analyzed coded for memo1 that is contextualizing the gardening project. Therefore, this kind of data management resonates well with Huberman and Miles (1994) observation that,

> a good storage and retrieval system is critical for keeping track of what data are available; for permitting easy, flexible, reliable use of data-often by several members of a research team-at different points in time over a project's life and for documenting the analyses made so that the study can, in principle, be verified or replicated" (p. 430).

Therefore, a table of data generated and indexing was created to make it easy for readers to follow up.

Document	Index	Appendix
Chipembere gardening constitution	Doc DC	5
SCEC Field reports • 19 August 2010 Field report • 13 January 2011 Field report	Doc Fr Doc Fr1 Doc Fr2	 6 7
Participant observations workshops • Vegetable gardening • Pest invasion • Incorporating herbs into the garden	 OB1 OB2 OB3	 8 9 10
In-depth interview **Focus group interview**	IPc1 IEO ICD4 IPvc1FGI	 12
Data analysis • Contextual profiling • Learning opportunities in *Chipembere* project • *Chipembere* as a space for learning	 Memo 1 Memo 2 Memo3	 13 14 15

Table 2: Data generated and indexed

Patton note that,

> Data interpretation and analysis involves making sense of what people have said, looking for patterns, putting together what is said in one place, and integrating what different people have said. These are processes that belong primarily to the analysis phase of qualitative evaluations after the data are collected (1990, pp. 347-348)

Plummer (1983) urges researchers to pay attention to three central issues when conducting data

analysis, representativeness, reliability and validity. In this research I was observant and take every account to minimize or eliminate representativeness effect and ensure research reliability and validity. In essence research representativeness was mitigated by a careful selection of participants of different positions within the gardening project. Mitigating representativeness was also made possible by use of a range of data collection methods such as document analysis and participant observations. Furthermore, through constant member checking, data triangulation and keeping a clear record of data sources for reference purposes representativeness was mitigated and research reliability and validity was achieved. Patton (1990) cited in Lupele (2003) argues that there is no such a straightforward tests and basic rules to data analysis but urges researchers to do the best with their intellect to fairly represent the data and communicate what the data reveals in the light of the purpose of the study.

In this light data analysis was done systematically through a reflexive analysis. O'Leary (2004 p. 184) describes, "reflexive analysis as involving, staying as close to the data as possible- from the initial collection right through to the drawing of final conclusions". He further reminds us that the process requires researchers to;

> "manage and organize raw data systematically, code and enter data; engage in reflexive appropriate for the data type; interpret meaning, uncover and discover findings; and finally draw relevant conclusions, all the while being sure to keep an overall sense of the project that has consistently moving between data and research questions, aims and objectives, theoretical underpinnings and methodological constraints" (O'Leary, 2004, pp. 184-185).

Therefore, in this light and above understanding data analysis was a systematic process done inductively and deductively. However, Oleary (2004, p. 195) argues that although "deductive reasoning (hypothesis verification/theory testing) is more associated with positivist/quantitative whilst inductive reasoning (to drive theory from specific instances) is seen as central to post-positivist/qualitative research, in practice the distinction is not clear-cut". Oleary (2004) further describe inductive and deductive in this way (diagram 2)

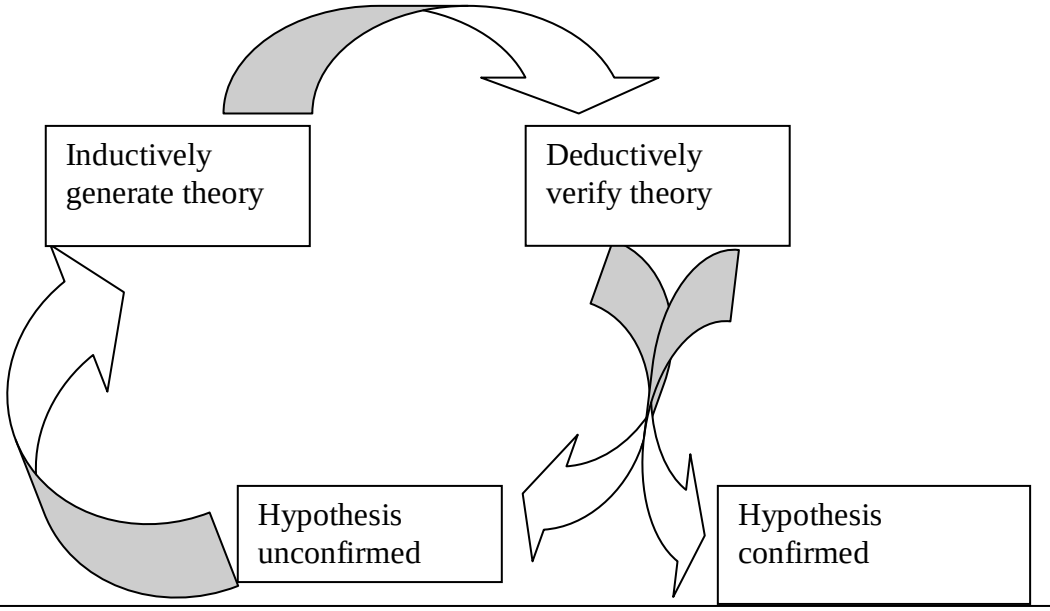

Diagram 2; Cycles of inductive and deductive reasoning (*adapted from* O'Leary, 2004)

Inductive analysis was chosen because it allows for a meaningful understanding through generation/ exploration of relevant themes. And this approach to data analysis allows for generation of themes through engagement with literature, prior experiences of the researcher and nature of the research question (O'Leary, 2004). In my case three major categories or themes emerged from working with theory and from the preliminary analysis of gathered data. Namely contextual profiling of *Chipembere* gardening project; learning opportunities in *Chipembere* gardening practices and lastly Chipembere gardening project as space for social learning processes. These categories will be discussed in detail below.

Contextual profiling of *Chipembere* gardening project was done to gain in-depth understanding into the emergence and the structures of the gardening project. Therefore this section mainly investigated into the emergence of the garden, influencing factors, the garden composition, the domain and lastly their practices. In essence, the themes in this category were mainly informed by insights from document analysis, interviews and lastly from working with literature especially the Community of Practice theoretical framework by Lave and Wenger (1991). However, this category was later used as the basis to classify Chipembere gardening project as a community of practice. The themes to this category formed analytical memo 1 (appendix 13) and the guiding coding system to the category was structured in this form (Fig 5 below).

Contextual profiling of the *Chipembere* Gardening Project						
Community composition	Emergence of the gardening					
	Main objectives	Factors influencing the development				
		Unsustainable practices	External Mediation		Constraints to the emergence	Benefits accrued
			training	New Sustainable initiatives		

Fig 5; Gardening project as a CoP.

Learning opportunities in *Chipembere* gardening project was investigated on and formed the second major category. The themes to this category were influenced by preliminary insights coming from data especially participant observations (OB1, OB2 and OB3) as well as working with literature on Social Learning theory by Wals (2007). Therefore, this category mainly investigated on the learning opportunities within the garden itself, in the gardeners' composition and in the gardening practices. The themes to this category formed analytical memo 2 (appendix 14) and the guiding coding system was developed in the below format (Fig 6).

Learning opportunities embedded in the Gardening project						
Categories	Practise	Dissonance/conflicts	Diversity	Mediating artefacts		
				Training	Power relations	IKS
Coding						

Fig 6; Learning opportunities embedded in *Chipembere* gardening practice

The final category to my data analysis is *Chipembere* as a space for social learning processes. This category was informed by preliminary findings and insights from data that the assumed learning process had an element of social learning. Hence this section seeks to investigate and classify the type of learning embedded in *Chipembere*. In essence this section investigates how *Chipembere* gardening project as a community of practice enables learning to happen and classify the type of learning. Therefore, most of the themes to this category were drawn from Wals' (2007) six contours of social

learning. The themes to this category formed analytical memo 3 (Appendix 15) and a coding system for this was developed and presented below (see Fig 7**)**.

Chipembere as a space for social learning processes						
Categories	Orientation / Exploration	Self awareness	Deframing/ deconstruction	Co-creation /reframing	Applying/ experimentation	Review
Coding						

Fig 7; How does *Chipembere* CoP enable social learning processes

O'Leary (2004, p. 196) argues that in data analysis "there is need for rich engagement with the documents transcripts and texts that make up a researcher's raw data". With this understanding after developing my three main data analysis categories I investigated for evidence of each set theme in each category. This process was very critical in my research since it provided evidence of my research and built on to my chapter four data presentation and chapter five discussions of the findings. Therefore, a thorough, honest and systematic work was done. This process involved analyzing all the data sets from documents to interview transcript through the themes and whenever evidence is found the piece of evidence was coded with the responding color code respectively (Appendix 16). And finally all the coded evidence was pulled out into one analytical memo put together according to the color codes (Appendix 13).

3.5 Ethical considerations

I faced a mountain task to negotiate concern to research with Mukauzviitire gardening members, which was my other intended case study. My main challenge was to balance research focus and *Mukauzviitire's* expectations which were; Financial and seed assistance into their project and lastly technical support through workshops, training courses and marketing of their produce. However, ethically and because of my work context I couldn't fake promise them so as to research with them but I highlighted clearly, my research purpose, goals and objectives. Which in return the refused me access into their project and because of this I drop this case study and concentrated with one case *Chipembere* gardening project.

In *Chipembere* gardening project my main challenge was divided attention of the participants due to community politics and season. Communal politics proved to play a significant role within the community and this led to gardening meeting dates colliding with community work dates. In Sebakwe communal area Thursday of every week is regarded as a scared day and people are not allowed to work in the fields. And this is the day *Chipembere* gardening members has set aside for their weekly

gardening meetings. However, this Thursday has been set aside by the Rockvale Community headman as a day for community work where community members were suppose to go and repair roads, gully reclamation among others. Hence it was difficulty to find a full attendance at the garden instead in some cases you would find more *novices* standing in places of their parents or relatives. And this disturbed the actual gardening practices and gardener's interactions, which was of my keen interest to investigate on. Besides that, it was also equally difficult to gather the women any other day besides Thursdays since it was harvesting time hence, the gardeners dedicated much effort towards their family fields and in most cases during this season the garden lie idle.

However, despite all the setbacks and challenges most of the procedural processes before data collection process were done (Appendix 1; 2; 3). The researcher managed to attain all the participants' permission and they showed willingness to be part and participate in the research process by signing in my consent forms (Appendix 3). The consent forms were prepared in the local vernacular, which is *Shona (*Appendix 3*)*. On the access negotiation date I was accompanied by our Organization's Director who helped a lot in explaining the research purpose and how the outcomes may help to capacitate the gardeners and the organization at large (see fig 8 & fig 9).

Fig 8: Prior visit to the gardening project

Fig 9: Negotiating access and concern with the gardening committee

We read through the consent letters together with all the present participants and explained and clarified where there was need. I explained the research processes and the intended data collection schedules/dates and we all agreed on the set dates. This process was done to ensure that all the gardening members were knowledgeable of what they were expected of and when. This was also done to build a good research relationship with my case (Yin, 1993) and to instill sense of ownership and togetherness during the research process. However, I clearly outlined their rights to withdraw at any time of the research process and assured anonymity although they never demanded it. However, it was out of respect and intention of no harm to my participants that I decided to uphold their identity as much as possible though I'm aware that by including some photographs in this research study

anonymity was compromised.

It is also important to mention that because of the prior relationship we had with *Chipembere* community it was easy to gain access and be granted permission. On our prior visit with Sebakwe Conservation and Education Centre director consent letters were left with the chairwoman of the garden to give the gardeners emblem time to discuss and for individuals to decide whether to be part of or to be left out of the research process. Interestingly the gardening committee gave us a green light to proceed with the research even though some members were absent. They also advised me not to wait for the consent letters. They promised to send completed concern forms to Sebakwe Conservation and Environmental Centre offices once they are decided. However, I left the letters on the 11th March 2011 and only received the completed consent letters on the 1st of May 2011. The gardening members honored their word with a hundred percent consent conformation and further promised to give maximum support and valid information to the research process and they were delighted to be part of this research process.

Research ethics kept haunting me down through the data collection process and I encountered a conflict between research ethics and cultural beliefs or practices in my context. When I was conducting my two individual semi-structured interviews namely IPc1 & IPvc1 and my focus group interview FGI (Fig 10 below) there was a conflict between my interview sitting setup or positioning structure and cultural perspective. In my *Shona* culture it is out of respect that a man sits on an uplifted seat whilst women sit on the ground. But this set up as being portrayed in Fig 9 gives a general overview of knowledge gradient or power gradient as if I was now the most knowledgeable person yet the most humble ones sitting on the ground are the ones with the personal experiences and knowledge I was interested in.

(Fig 10: Focus group interview sitting setup vs *Shona* custom)

3.6 Data validity and trustworthiness

Issues of data validity and trustworthiness were dealt with through data triangulation, member checking, data referencing and systematic coding, indexing and analysis of data. Cohen and Manion (1994) describe data triangulation as the use of two or more methods of data collection in a study of aspects of human behaviour. In my case issues of data validity and trustworthiness were of concern

through out the research process (Pitman & Maxwell, 1992). I triangulated with four research methods namely, document analysis, participant observations, individual face to face in-depth semi-structured interviews and a group semi-structured interview. Data triangulation was done to check for integrity of interferences on upcoming insights drawing from multiple data sources as well as to compliment and in some cases mitigate one method's weakness. In a way this has added to the trustworthiness of the data gathered from the case. In essence this meant that if there is constancy in interferences in insights or ideas drawn across multiple research methods then the more valid the data and the more trusted it is and this was the case in my research study.

Muralidhar (1993) cited in Lupele (2004) argue that data triangulation can also serve as check and balance in the application of these methods during data collection process and in enhancing validity of the research findings. In practice second phase of data collection process (see diagram 1) was primarily done as ground truthing of preliminary insights from data and secondly to bridge gaps in document analysis as a method. In this light, bearing in mind the lost Gardening constitution document, which had in it, the garden meetings and duty roasters, which were very important for this research study. Therefore, second phase of data collection was meant to capture important data, which couldn't be recovered from the lost documents, and this is what Muralidhar (1993) argue in the above citation. Marshall and Rossman (1989) cited in Lupele (2004) are also in support of data triangulation, they argue that, "each type and source of data has strengths and weakness and using them in combination increases validity as the strengths of one approach compensate for the weakness of another approach". Hence this justifies adoption of data triangulation in this research study and its usefulness to achieve a valid and trustworthy data.

McCormick and James (1983) cited in Lupele (2004) provided interesting insights on how one can achieve validity in research when they forwarded that,

> "In view of the apparently subjective nature of much qualitative interpretation, validation is achieved when others, particularly the subjects, recognize its authenticity. One way of doing this is for the researcher to write out his/her analysis for the subjects of the research in terms that they will understand and then record their reactions to it" (p. 241).

In this light, I made sure the gardeners understood the research process and its purpose. Although I didn't write them the analysis as McCormick and James (1983) suggest, but in various feedback meetings with the gardeners we always discussed surfacing insights from the data, some contradictions and the good part was that they recognized and acknowledged the preliminary findings and appreciated these outcomes. Furthermore, as a follow up project beyond this research we agreed to organize a proper feedback workshop whereby all the findings, the contradictions and recommendations will be discussed to see the garden project succeeding in its practices.

Member checking was another method employed to mitigate issues of data validity and trustworthiness. Although there wasn't separate schedule done for member checking, it was incorporated in phase three of data collection process (diagram 1). In this phase through individual semi-structured and a focus group interview most insights were checked upon with various interviewees. And the constancy in the interferences might as well mean the data was valid and it can be trusted for the use in this research study. However, despite using all these methods for data collection Cohen et al., (2000) reminds us for the need of honesty, depth, richness and wide scope of data together with constant data triangulation and high degree objectivity in the researcher in order to achieve data credibility. And this reminder was carried through out this research study.

3.7 Conclusion

This chapter has served its purpose that is to outline research decisions that were chosen in this research study. It went on to discuss the entire data collection process illuminating all encountered problems and how they were resolved. In practice this chapter has laid foundation for chapter four where the data collected from the case will be presented. Therefore, in the next section relevant data collected from *Chipembere* gardening project will be presented.

Chapter four

Data presentation

Introduction

The main purpose of this chapter is to present relevant data generated from *Chipembere* gardening project. This chapter builds upon chapter three and further describes the data analysis process for the study. In essence this chapter provides evidence from the study which relates and answers the research questions of this study. Hence, this evidence is critical for where claims and recommendations based on the same data will be done. Furthermore, this chapter provides an opportunity to justify earlier assumptions made in this study. Therefore, a detailed account or evidence to the research questions will be presented in subheadings to follow. The chapter will, further provide a detailed account on theoretical frameworks that were used to inform and guide the data analysis process.

4.1 Data presentation methods

In this research I employed two data analysis frameworks namely, "Thick Descriptions" (Geertz, 1973) and "Data Reduction and Interpretation" (Marshall & Roman, 1989). Throughout the study data are presented in Mother Tongue with bracketed translation. The two data analysis frameworks (descriptive and reductive) were chosen and worked with concurrently (O'Leary, 2004 cited in Zazu, 2008), and will be discussed in detail below.

4.1.1 Thick Description

Because this research was done in a qualitative approach and informed by an interpretive orientation therefore, I made use of "thick descriptions" as informed by Greetz (1973) cited in Sage Dictionary of Social Research (2006). In essence this meant that I developed thick descriptions of the qualitative data that I had generated through document analysis, focus group interview, individual semi-structured interviews and participant observations conducted as described by Zazu (2008). Therefore, much of this chapter is a representation of thick descriptions on emerging issues from the data collected and relating to the research purpose and focus. Lastly thick descriptions were very important since they allowed me to process data into meaningful evidence, which was later used in chapter five for discussion.

4.1.2 Reduction and Interpretation

Data reduction and interpretation was employed as a data analysis technique as informed by Marshall and Roman (1989) cited in Creswell (1994). The technique involved reducing voluminous amount of data (thick descriptions) into certain patterns, categories or themes and then interpret using schema and

the two analytical frameworks (CoP Lave & Wenger, 1991 and Social learning Wals, 2007) underpinning this study. Devos and Fouche (1998, p. 203) cited in Zazu (2008) referred to this approach to data analysis and interpretation as a process of breaking data into constituent parts to obtain answers to research questions. Therefore, this guided development of analytical memos used in this study (appendices 13; 14 and 15) which were later used to develop analytical statements for further discussion in chapter five.

Furthermore, this approach also allowed me to explore terms and concepts within the thick descriptions to formulate new categories and themes as explained by O'Leary (2004, pp. 196-197). However, in practice these two data analysis techniques equipped me with the relevant knowledge to work with inductive and deductive reasoning as the basis for formulation of analytical statements and meaning making process. Therefore, the following is data representation of the data analysis process relating to the categories and themes answering my research questions.

4.2 Conceptualizing *Chipembere* gardening project as a Community of Practice.

This chapter is informed by a deductive reasoning. Lave and Wenger's (1991) Community of Practice theoretical framework was used to inform sub-themes and to formulate analytical memo one (appendix 13). Evidence was drawn from the context to formulate a thick description of *Chipembere* gardening project as a Community of Practice. Lave and Wenger (1991) describe Community of Practice in three particular characteristics namely Community, Domain and Practice. Therefore, these three above mentioned characteristics were explored in detail relating to the case with the intention to describe *Chipembere* gardening project as a Community of Practice. Hence a thick description was formulated and this method as argued before was chosen for its power and ability to make use of evidence to clearly relate or describe the context beyond reasonable doubt as a Community of Practice.

4.2.1 *Chipembere* gardeners as a Community

Chipembere gardening project is a community project co-owned by 20 women from the 20 households in Rockvale village one in Sebakwe communal area (Fig 1). This is the third year now these women are gardening together. The women are bonded together by the need to conserve or sustainably utilize natural resources, subsistence gardening for community development and women appraisal (Doc GC, Appendix **5**). As highlighted by gardeners, membership to the garden was predetermined by residents to Rockvale village one and mostly important by having a firewood preserving or fuel-efficient stove (also known as the *tsotso* stove). The above insights were clearly outlined in Doc GC which stated that, "*Kuti munhu abvumirwe kuva nhengo anofanira kuva nechoto chetsotso chakavakirirwa*" (for a person to be eligible member of the garden should own a built-in tsotso stove). However, through data triangulation of the garden constitution (Doc GC), interview with (IPc1) and in the analysis of the

garden constitution (Doc GC) and consent letters it was interesting to note a contradiction between membership policy and real practice.

In their explanations ICD4, IPc1, FGI P10, Doc GC (see memo 1, Appendix **13**) summarized how the gardening project started from *tsotso* stoves to the real garden project. From their explanations each member was supposed to own an improved stove (*tsotso stove*) as supported by the gardening policy *"*Kuti munhu abvumirwe kuva nhengo anofanira kuva nechoto chetsotso chakavakirirwa" (Doc GC) and the same policy document clearly states that, "…*boka remadzimai rinofanira kuve wevakadzi chete*." (…a women's group is only for women/ only women are eligible to join a women's group) and it further stipulates that, "…*mibhedha iyi inokwanisa kuzopiwa vamwe vakadzi kubva kune mimwe misha zvichienderana nekugarisana kwavo nevamwe*" (… these beds can only be given to women from other villages depending on how they relate with.) yet in practice as evidenced in IPvc1, "*…tine vamwe baba veku3 vatirikushanda navo mukati…"* (…there is a man from 3 whom we are working with inside…..). This poses a contradiction of policy and practice. Furthermore, participation in the garden is not restricted to constitutional members but also non-members as evidenced in OB1 where, "Pic 7 is evident to Pnov6, who is constitutionally not an active member to the project but is a relative of P5…" whereas in OB2 it was noticed that, "…some were novices standing in place of their parents and mother in laws" and lastly in OB3 it was evidenced that there were some, "…younger and novices who just came to stand in their absent parents' positions…". Whilst analysis and comparison between the Garden constitution with a list of members and returned consent letters it was noticed that 5 participants who signed in the consent forms were not constitutionally Garden members (Doc GC) and they were not on the garden membership list but were active participants in the garden.

However, the project is made of a diverse community who came from different historical backgrounds. From the interview data although it was a small representative sample from the gardeners it was noted that none of the members originally came from Rockvale itself but, were relocated to this communal area. It can be noted that two of the people (FGI P14, FGI P12), were a true representative of the population which came from the neighboring farms where they were working as farm laborers (see appendix) whilst majority of the sampled population came from farming neighboring rural areas namely Mhondoro (FGI P10, FGI P12, IPc1), Chirumanzi (FGI P14), Chiundura, (IPvc1, FGI P6). However, with few populations coming from small pockets of Zimbabwe such as Gokwe (FGI Pnv 15) and Chivhu (FGI P13) which are dry lands but popularly known for dry cropping, growing crops such as cotton, groundnuts and other small grain crops.

One interesting insight from participant observations and interview data was that diversity in the population has in some instances proved to have played a role in influencing their gardening practices. For instance, Pvc1 in an interview recalled her historical experiences as the major influence to her

success and even why she was elected as the first Garden chairwoman in 2011. She cited that, *"Ndakatogara vamwe vanga vatogara…2010. Handizivi kuda pakudyara kwatanga tichiita kumagarden umu achiri ma one one, paya paya kuda vanhu vaionawo. Nekuti vanhu vanotarisa zvakawanda pavanhu, hunhu netsika nemagariro nevamwe zvinhu zvinotariswa nevaunenge ugere navo."(*I settled when others were already settled…2010. relocated to this place in 2010 way after others have resettled. I don't know maybe it was because of the way we were planting when gardens were still isolated maybe people noticed. Because people see a lot in other people, personality, behavior and relationships with other people are things that people one lives with are on the lookout for) but at this moment we should also note she is the person who came from an irrigation background where she thought it was more successful than their current practices (see memo1 Appendix 13).

Their gardening practice has a distinctive power structure that governs their day to day activities. This structure is clearly outlined in their Garden Constitution (Doc GC) and it was easy to observe this power structure's influence in the field especially in OB1, OB2 & OB3 respectively. Doc GC clearly states that, "*Boka rebindu richava nevatungamiriri pfumabwe. ...sachigaro, mutevedzeri wasachigaro, mabharani, mutevedzeri wamabharani, nemubati wehomwe, mupurisa nemutevedzeri wake, uye nevamiriri vevanhu vaviri. Vamiriri vevanhu vachasarudzwa gore rega rega*." (the gardening project shall have 9 leaders... Chairperson, Vice chairperson, secretary, vice secretary, treasurer, garden officer and the vice and 2 representatives for the rest of the group) and this structure is represented diagrammatically below:

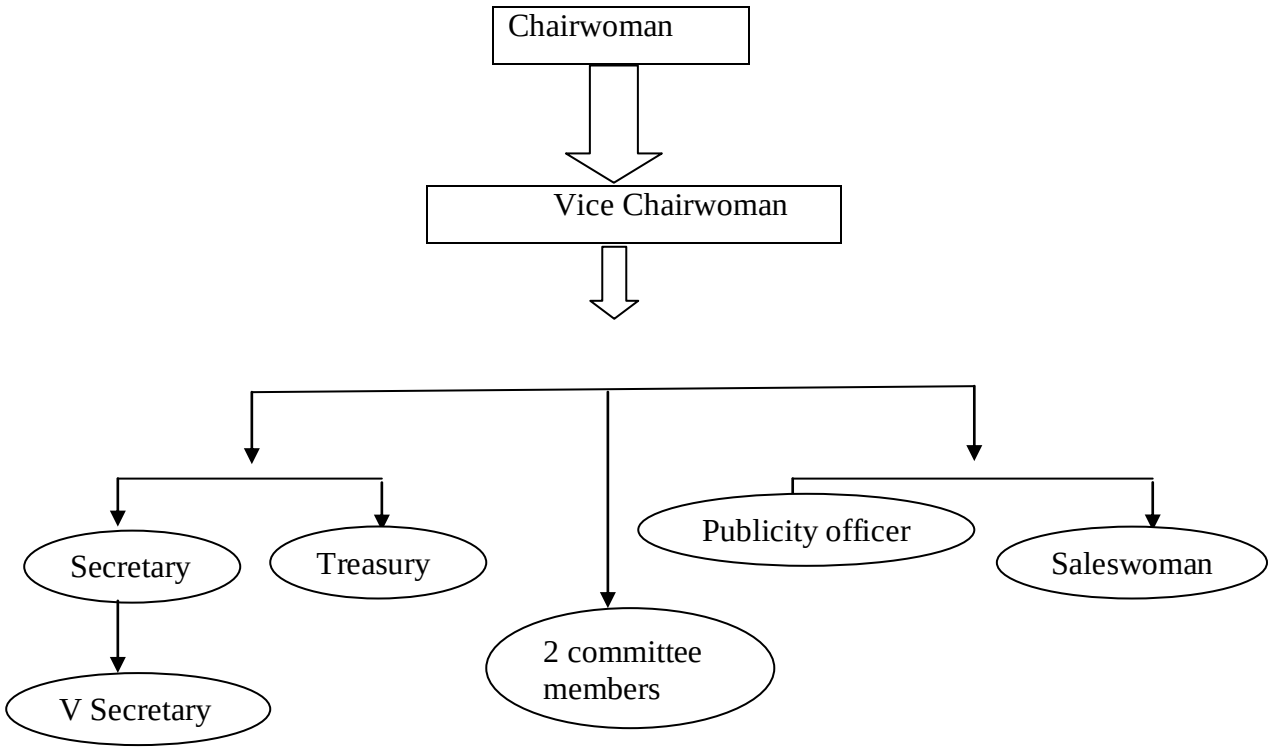

Fig 11: The distinctive power structure within the project (*Adopted from:* 1st Garden Constitution document)

However, it should be noted that there is a slight difference in terminology of the garden positions with those outlined above drawn from the lost Doc GC 1 and those listed above from the new version Doc GC2. The number of positions did not change but it should be noted that, I have restricted most of the data to the original stolen Doc GC1 because of its true authenticity to the initial ideas to the gardening project.

As evidenced above it can be noted that the garden has a distinctive managerial structure and is bound and guided by various policies, rules and managerial structure. Membership is not an overnight thing but involves certain priorities as highlighted before and a joining fee of US $2 should be paid for admission as a member (Doc GC). Furthermore, Thursday's meetings are a compulsory whereby every member is supposed to attend and coming late attract a find of US $1 and being absent for three consecutive meetings may result in expulsion from the project (Doc GC, IPc1).

It is also worth noting that some of the stipulated policies in the gardening practices such as,

- "Bindu richadiridzirwa neMuvhuro, Chitatu nemuGovera kubva na 6 mangwanani kusvika na 4 masikati. (the garden should be watered on Mondays, Wednesdays and Saturdays from 6 am to 4pm.)
- Vasingatevedzeri mitemo … pamaitiro avo nhengo idzi dzinoburitswa mubindu. (those who don't abide to the rule … especially on practice these members shall be expelled from the garden.)
- Nyaya dzese dzinezvekuita neboka remadzimai rebindu dzinofanira kukurukurirwa ku bindu zvakadzama kwete kudzimba" (All issues concerning the garden shall be discussed at length only at the garden and not at homes).

(Adopted from Doc GC)

These well-defined rules and polices make *Chipembere* a well contained and organized CoP with a well-defined community which is known or differentiated from others by the name Chipembere which means Black Rhino and they attach the importance of their gardening project equally to the importance of conserving critically endangered Black rhino (Pvc1 & Doc GC)

Despite all these sound and harmonious structures just like any other organization or club the project has also its difficulties or constraints to succeed in providing food security to the gardeners as noted from the data. Such constraints includes, inconsiderate of various members to improve or take care of their plants (IPc1, IPvc1, IEO) and punctuality to various important meetings and workshops (IPc1, IPvc1, IEO, ICD4) and double minded members especially during the establishment stage of the garden leading to various pullbacks (ICD4, IPvc1).

4.2.2 *Chipembere* gardener's domain

The Project constitution's vision and objectives clearly stipulate the domain of the gardening project

although various parties interacting with this community have altered or added to their main domain. It is worth noting various objectives that were projected into the establishment and day-to-day running of the gardening project. To start with in the initial stages of the establishment of the project the funding and founding organization's director clearly stated in ICD4, that, "…Initially because this project, I don't want to say it was a brain child of us the centre ours was on the improved stove but people had already their own private individual gardens" and further states that, "…as an incentives to get them interest in our proposed project on *tsotso* stoves we promised that everyone has an improved stove in her home we will help them to establish a community garden since we knew vegetables are a problem". Lastly within the same interview she recited their motive in initiating or facilitating the formation of this project, "…from our side, from a conservation point of view (we) were hoping that if they grow vegetable in the community it will prevent them from poaching for relish" (ICD4). Therefore, this is evident that the funding and founding organization had a conservation motive hence; their involvement with the gardeners is more of monitoring, assessment and evaluation role as evidenced in some field reports namely Doc Fr1 & Doc Fr2, also including training and raising awareness to issues of environmental concerns such as poaching, deforestation and resource depletion (ICD4).

Whereas the community itself was more attracted to vegetable gardening potential benefits as evident in their garden constitution document (Doc GC),

"**Muono wekusvika kupera kwegore ra 2015 (*Vision for 2015*)**

- Kunofanira kuva nekubatana pakati pevanhu kadzi. (*There should be unity among members*)
- Kuve nekubudirira kwemagariro pakati pevanhu veboka pamwe nemhuri dzavo. (*There should be success/prosperity and development among individuals and also their families*)
- Nhengo dzeboka dzinofanira kuwana mari kubva mubindu. (*members of the group should get money from the garden.*)
- Kunofanira kuva nebudiriro. (*There should be development*)
- Kunofanira kuva nehupfumi." (*There should be wealth*)

(*Adopted from* Doc GC, translated into English by the researcher)

However, reading from data these gardeners were introduced to different sustainable practices, teachings and their objectives added to or were transformed. For instance in IEO it is clearly stated that the objective was to, "*Tirikubatsirana nevarimi kuti tivadzidzise kurima, eeeh paproject iyi tirikudyara hedu mavegetables" (*we are helping each other with the farmers by teaching them farming, eeeh on this project we are planting vegetables. Hence, the reasons why in most participant observations there were

different orientations to objectives and learning approaches;

OB1:

a) Learn how to do a vegetable nursery
b) Put in place a watering duty roaster
c) Put in place a guarding duty roaster

OB3:

Pc1 introduced everyone to that day's activity incorporating herbal gardening to their vegetable farming… (Extracted from OB1, OB2 and OB3 respectively)

However, the above discussion has pulled out relevant evidence beyond any doubt that *Chipembere* project is guided and informed by certain objectives and mainly their domain which aim at a sustainable vegetable gardening.

4.2.3 *Chipembere* gardening practise

Research data is evident that *Chipembere* members are engaged vegetable gardening as their major practice. However, democratic participation in different engagements has been witnessed. Participation in the project is not restricted to constitutionally eligible members only but it's an open learning system where each gardener's contribution is valuable. From the ICD4 interview the interviewee strongly believe gardeners run their own project and from their engagement they are learning by participation or by doing (ref to memo 1 Appendix 13).

However, at this moment I should do more justice to the research questions of this study by further looking into factors that have led to the establishment of the garden and eventually shaping the gardening practices itself. By doing this, it will enrich our understanding of the community itself their prior knowledge to farming and the new concept of community farming which was brought in (ICD4) as a new practice. Drawing from data this community posed a great threat to environmental and ecosystem stability by moving into Sebakwe area being specific to Rockvale village 1 (ICD4). However, bearing in mind that these people were relocated into Rockvale village 1 which is adjacent to the Midlands Black Rhino Conservancy (MBRC) which is a hot spot for poaching of small game for relish and coordinated and specialized gang poaching for big game including the critically endangered Black Rhino this became an issue of concern. Therefore, one of my respondent in ICD4 forward that it, all started from a research by an interim who, "noted with concern how people consumed a lot of firewood unnecessarily to cook their meals, everyone relied on firewood since there is no electricity" and also after realizing that, "people had already full private gardens but they were not sustainable the way they were managing them".

The above mentioned issues of concern were carried through in most of the respondents minds and the interesting thing was that during the interviews most of the respondents were aware of the unsustainable gardening practice for instance, in FGI P6 stated that, "*…takatangawo kuita zvimagarden zvedu izvezvo zvinorehwa zvepaDam apo*"(we started doing small gardens by the Dam there that have been mentioned whereas Pc1 in an interview IPc1 she acknowledges the existences of these unsustainable gardens when she said, "*…aaah zvimagarden takanga tagara tiinazvo. …takatanga tichisosa zvimagarden"* (aaah we already gardens …we fenced them with branches and lastly to quote few P14 in FGI also acknowledges the efforts played by the Centre in raising awareness to their unsustainable practices and she further explains the major underpinnings to such practices when she said that,

> "*…vekuconservancy vachifamba munzvimbo muno vakaona kuti miti tirikutema ende futi moto yaiuya ichipisa kana wapisa ndikaona garden rangu ratsva ndinotema futi ndichidzosa"* (when those from conservancy passed this place they saw that we are cutting trees and they came when there were fires when fires burnt my fence I would cut trees again to make another fence.) (P14 in an interview FGI)

Furthermore, respondents were very reflexive to this issue and its related risks, for instance in FGI P6 highlighted one of the risks they were posing "*…kuti mava kupedza chii miti muno muchitema, gore ne gore matema chatsva maita zvechimwe moto uya wapisa maita zvechimwe…"* (…what are you finishing, trees when cut them year after year when it is burnt you have another one, fire burns you have another …). And because of these issues and risks this is why Sebakwe (SCEC) staff started educating this community on mentioned above environmental issues and introduced the concept of working together through a communal vegetable-farming project. In which Sebakwe (SCEC) promised to donate gardening fence and facilitated in the formation of a sound gardening committee, set up the project by providing training facilities and inputs such as seedlings (refer to Analytical memo 1; Appendix 13)

As evidenced from interview data *Chipembere* gardeners were exposed to various training procedures where various techniques or methods of teaching were employed, "…work-shopping of course that was another way of learning where we had discussions and us presenting on deforestation and poaching…methods such as role play. …presentations, talks, demonstrations and a lot of methods that are involved" (see Analytical memo 1: appendix 13). Of course the major method being various training workshops as highlighted above and this provided a platform to illuminate the associated risks to their current practices. In her own words CD4 in a face to face individual interview she argue that after women and biomass research findings, "… we realized we needed to meet with the women do a workshop with them about their use of firewood on how, what their action today will affect their future" so eventually they decided to "work-shop and bring them together introducing this concept of working together as a project" (ICD4).

Therefore, this facilitation process brought about the garden and eventually influenced the gardening practices.

As highlighted before *Chipembere* gardeners are involved in vegetable gardening as highlighted by EO, P13 in interviews IEO and FGI respectively, "*Kunyanya tinorima muriwo*, cabbage, rape, spinach and tomatoes" (mostly we grow vegetables, cabbage, rape, spinach and tomatoes) and these are mostly for subsistence. It was noted that the garden proved to be one of the instant though not constant income-generating project to these gardeners. It was also noted that, from this vegetable gardening project has sprung out several projects of equally importance namely Poultry and Piggery. This can be evidenced in Pvc1's explanation in an interview IPvc1 when she explained, "*Takabva kumastove, tikaenda kugarden, tikauya pahuku ikozvino tavane nguruve"* (we started from the *tsotso* stoves, moved on to the garden, then to chickens and right now we have pigs). Furthermore, they regularly meet in the garden and P13 in a focus group interview FGI explained that,

> "*…patinosangana pese mugarden kazhinji tinenge tichidiridza kana kudyara mbeu yatinenge tichifanirwa kudyara ipapo. …zvatinenge tichidyara zvinofanira kunge zviri uniform. …tinonyanyo dyara muriwo wakaita se toti madomasi, rape, cabbage ne spinach ne beans."* (…when we meet in the garden most of the times we will be watering or planting the seed we are supposed to plant at that time. …what we will be planting should be uniform. …we usually plant vegetables such as tomatoes, rape, cabbage, spinach and beans). (P13 in an interview FG1)

Furthermore, in such garden meetings which are usually held on every Thursdays of every week that's where most interactions with various gardeners and external participants happen. As mentioned before in such meetings are where some objectives are added to or transformed. For instance, P13 in an interview FGI she retaliate that, "*…kazhinji zvinhu zvatinoita mugarden medu imomo tinoita na vamudorman saka vanotiudza kuti iyezvino ngatiiseyi ichi apa, ichi apa"* (… in most cases whatever we do in the garden we do it with our agricultural extension officer, who tells us that now we plant this here and that over there). But this kind of interaction has shown some evidence of power relation playing out in influencing gardeners' practices. In support of this observation EO in an interview admitted how her interaction with the group has an influence over their gardening decisions and practices when she said,

> "*Ndinoona kuti ehe paneinfluence ndinokwanisa kuti ndovaverengera ma number of beds dzatinoshandisasa, ndikainstructor kuti beds iri, iri ne iri, iri haabatwi enyu ndeaya ari kuma end uko nyangwe pasati pane chatadyara kumabeds aya havadyari chinhu kusvika ndavataurira kuti iyezvino tavakudyara chakati, vanofollower ma instructions.* (I see there is influence I can count the number of beds that we want to use and I instruct that this bed, this and this will not be touched yours are these ones at the ends/edges even when we have not planted anything in these beds they will not plant anything until I tell them that now we are planting that they follow my instructions) (EO in an interview, IEO)

This kind of power was also evidenced within the garden itself despite the management structures some members proved to be dominant (FGI, OB1, OB3: P13 & P14) and the chairwoman is equipped with both the garden's constitutional power and customary power she overly influence and controls gardening practices. Drawing from data her influence has maintained the garden integrity and has unified gardeners and controlled the overall interactions. In one of her explanation during an individual interview (IPvc1) she admitted, "*Masimba aripo masimba ndikaashandisa ndikaona vandikunda inini ndoisa kumutemo kunoda kuti ndiite seyi tovhara garden here?"* (Powers are there when I use them and they defeat me I refer to the rules and what do you want me to do, should we close down the garden) She further explains her duty as the chairwoman, "*...ndiripo pakuti kana tiine basa kugarden ndinotanga ndaunganidza vanhu ndoti munoda kuti tiite seyi ivo vondiudza kuti ikozvino tinoda kuti tiite zvakati ini ndoti ngatichiiteyi*" (… my role is such that if we have work to be done in the garden I first gather people and ask them what do you want us to do, they tell me that now we want to do this and I say lets us do it () With this kind of leadership the project has grown and the gardeners have stated to realize the financial benefits and as highlighted by CD4 "they have managed to realize the benefit of working together" (ICD4).

To wrap up, the gardening project has a defined domain and a managerial structure which maintains its practices. However, its gardening practices have shifted or transformed over time, with diverse interactions both internal and external. It is during this period from the establishment of the project to the stage where it is right now that even the gardeners themselves admits that it has been a learning phase and they have learnt through gardening and interactions with diverse people (refer to Analytical memo 1 Appendix 13). Various intervention strategies were employed to facilitate this learning process from training workshops, environmental talks, show and tell strategies, role-playing the members in order to understand deeper the concepts of conservation, sustainable utilization of natural resources and conservation agriculture. New sustainable initiatives were also developed and gardeners were equipped with new sustainable technologies such as improved stoves, live gardening fences i.e. vertiver fencing and lastly gardeners were introduced to herbs as a biological pest control system. Which in itself CD4 in an interview argue that some of the gardeners got hooked to new technologies but some it seems as they only use them to buy a relationship with the centre or when they are aware that the Sebakwe staff are visiting their projects (ICD4).

However, at this juncture it will be of great importance to highlight some of the contradictions that came up from data triangulation and analysis. It came up so confusingly that gardeners' commitment, punctuality and attendance to gardening meetings was misreported very much for instance, Doc Fr1 reports, "In the garden we observed that some members were being reluctant" furthermore Doc Fr2 reports, "…the problem was as a result of inconsistence from project members" and Pc1 also supports the

above observations, "*mukati medu manje mune vamwe vasina hanya nekuti muriwo zvawadyarwa unoda kuchengetedzwa… vamwe vanototi vanobva nemombe kuno kumba otonofudzira mombe kugarden…"* (in our midst there are some people who do not care that once the vegetables have been planted they need to be taken care of…..others bring cattle from home to herd them by the garden). Yet member checking in the Focus group interview and a further interview with the EO the issue came out differently for instance, in an interview with the EO she reported that, "*Asi parizvino tirikusangana nenguva yatinenge tataurirana kuti tiri kuda kuita ichi…"* (as for now we are meeting at the time that we would have agreed on that we want to do this and that), and in the Focus group interview (FGI) the women totally denied when they were asked,

R: "*ho! mune ma problems kana machallanges amakambosangana navo mukubudikidza ne nekushanda segroup? Mashandiro amunenge muchiita se group mune ma problems here kana kuti zvimachallenges zvamunosangana nazvo?* (Do you have any problems or challenges that you experienced when working in a group? When working as a group do you have any problems or challenges that you meet? **P13**: *Aaah ndingati hangu hapana asi challenge yatakambotiti bata bata vamwe vazhinji ndeye kuti maside atiri vamwe anonyudza saka kuti zviriko zvikure nokukasika kubatana nezvevamwe zvinonetsa. (Aaah,* I would say there isn't but a challenge which most of us had was that the sides we are can be waterlogged so it will be difficult for what we have there to grow to the same rate as those of others

And the rest of the group agreed to this including Pnov 15 who joined the gardening project recently. Yet IPvc1 brought into light the underpinnings to such behaviour when she highlighted that, "*Pekutanga tanga chaipo vamwe vakanga vasina kunzvisisa nekugutsikana nekuti zvinhu izvi zvaizotibatsira"* (From the very beginning some people didn't understand and were not satisfied that these things would be beneficial to them). And this is the reason why people were not committed, punctual and constant in their gardening as evidenced from the data (see Analytical memo1: Appendix 13)

One more interesting observation that tends to contrast the common belief that lack of resources can hinder progress was a true reflexivity in some of gardeners who notes that dependency syndrome was the major hinder to their progress. A field report Doc Fr2 reported that, "The members also mentioned lack of seeds but on this challenge some members observe this to be a problem of dependence syndrome…" and to add on Pc1 in an interview (IPC1) share the same sentiments when she highlights that, "*…pakuti tinopererwa pau20 hwedu tinoshaiwa maseeds e dollar $ tiri 20 kumira chaiko kuti tatoshaiwa kudyara tashaiwa mari. Asi miriwo taikatengesa ende tichitengesa…"*(… that from the 20 of us we fail to have seeds for a dollar and the 20 of us fail to plant due to lack of money' But we have sold vegetables and are still selling" and this observation was not even a secret to the extension officer who actually gave a recommendation by saying, "*…ngavasasamirira kudoneterwa, zvinokwanisa kuti nonokeyiwo time ichifamba mamwe macrops anofambirana ne season*" (…let them not wait for donations, there can be delays as time will be moving and some crops grow in particular seasons).

At this moment it will be in favour of the above-presented evidence that I can make a safe claim based on data presented that evidence is beyond any reasonable doubt that *Chipembere* gardening project can be described as a Community of practice as suggested by Lave & Wenger (1991).

4.3 Opportunities and challenges to social learning in *Chipembere* gardening practices

As highlighted by the heading, this section seeks to report findings on opportunities to social learning that were evident in data from the context. Therefore, this section was mostly informed by a deductive reasoning meaning that categories, themes were created after an intense data analysis and a legendary to the section was made (refer to fig 4). Therefore, sub themes were discovered and will be represented in this chapter

4.3.1 Vegetable gardening as an opportunity to social learning

Participation in the gardening project proved to be essential in facilitating learning. Hence participation as a stand-alone within the garden posed great opportunities for the gardeners to learn together, learn from each other and all this learning was through practice. As mentioned before the garden has a very distinctive managerial structure and constitutional guidance which guides them in most of their practices. There constitution clearly states some of the practices which I strongly believe and data is also evident to their potential to facilitate social learning in their gardening, for instance,

> Nhengo dzeboka remadzimai dzinofanira kuita misangano kaviri pamwedzi. (Members of the women's group must meet twice a month)
>
> Nyaya dzese dzinezvekuita neboka remadzimai rebindu dzinofanira kukururururirwa ku bindu zvakadzama kwete kudzimba.(all issues pertaining the garden shall be discussed in detail in the garden and not at homes)
>
> Nhengo dzese dzinofanira kushanda pamwechete kuzadzikisa tarisiro inotarisira mubindu (all members are supposed to work together in order to fulfil the garden's vision).
>
> Zvakadaro nhengo dzese dzinofanira kuno shanda mubindu China chega chega. (All members are supposed to work in the garden every Thursday) (see Analytical memo 2 Appendix 14).

Therefore, the above motives truly reflects community cooperative intention, working together spirit and this in itself provides a conducive environment and a meaningful space for social learning processes to take place.

Furthermore, in vegetable gardening the women were exposed to various knowledge through interactions with various stakeholders within the area. One of such important interactions is with the local extension officer who reported in a face to face individual interview (IEO) that,

> "*Tirikubatsirana nevarimi kuti tivadzidzise kurima, eeeh paproject iyi tirikudyara hedu mavegetables…* (we are

helping each other with the farmers by teaching them farming, eeeh on this project we are planting vegetables …)

And further that*, "Kunyanya tinorima muriwo*, cabbage, rape, spinach and tomatoes…" (mostly, we grow vegetables, cabbage, rape, spinach and tomatoes) (P12, FGI)

After which she explains that*,*

"…saka ndinogara ndichipindawo mavari tichipanana nguva dzekuti parizvino tinoda kurima chakati time yakati tinorima chakati saka tinongoudzana kuti tichaita ma meetings (… so I usually get amongst them where we give each other schedules for planting what so we tell each other that we will hold meetings) (see memo 2 Appendix 14).

From the above represented evidence from the data it can be drawn that, such interactions brings about conducive environment for social learning among the participants and if these interactions are kept alive and focused they have a potential for a fruitful learning process within the context. Therefore, social interactions were considered to be of great inspiration to processes of social learning to happen harmoniously and bring about sound learning experience to the participants.

Like mentioned before, *Chipembere* women are exposed to several new gardening practices in which this research argue the possibility or potential for great social learning processes to fruitfully happen. However, an interesting insight of how learning from practice is sometimes perceived was evident in an interview IPvc1. In which Pvc1 in an individual face to face interview highlights that, "*Pakushanda nevamwe parizvino aah ndingangoti hangu ehe unowanawo karuzivo asi vatiri kushanda navo vamwe varikuratidza kuti ruzivo rwacho vanga vasina sevamwe vanhu vanga vagere mumapurazi vanga vasingaite zvemairrigation"*(in working with others for now aah I would rather say yes you gain a small amount of knowledge but with the people we are currently working with they have shown they don't have the knowledge since they were people residing and working in the farms not doing irrigation farming). However, the interesting part is how she perceive knowledge, the means by which particular knowledge is supposed to be acquired and eventually how she measure whether learning has took place. And in this interview she argue not benefiting or learning at all. She underpin the failure to diverse farming backgrounds in which she values her farming experience better than the rest yet she conclude by appreciating diversity in participant as instrumental in perfecting practice and eventually in promoting social learning when she said, "*…tavakuita tiri pachinhu one saka izvozvo zvinoita kuti tiwane njere moto kubva kunevamwe anenge ari panextdoor*" (…we are now working on one thing and this gives us an opportunity to share knowledge and to borrow from others who next to us). And this in itself can really be evident to how practice can be of great potential in facilitating social learning process.

4.3.2 Dissonance / conflicts as an opportunity and a challenge to social learning in *Chipembere* gardening practices.

Learning is a process and in this research drawing mostly from participant observations among various methods used in this study, gardeners proved to be resilient in face of many challenges, conflicts and dissonances. However, drawing up from research data as mentioned before challenges, dissonance and conflicts in this case were viewed as vibrant media for social learning in *Chipembere* gardening project. Dissonance it's a moment of disagreement and in this, critical questions are surfaced exposing the gardeners to real situations and reveal or question all underpinning understandings to their current practices, norms, cultures. However, in this context dissonance or conflicts were considered key to social learning for their potential to unlock and challenge customs, norms in context and ability to bring about collective new reasoning or new set of practices which are agreed upon and tested as a community of practice. If this is achieved then that's when we celebrate dissonance and conflicts as source or instruments for fruitful social learning process. Therefore, this section seeks to surface evidence of dissonance, conflicts and challenges in action influencing critical gardening decisions among the gardeners and lastly providing opportunities for social learning processes among the gardeners themselves and with external influences.

There is some questioning we tend to down look in our everyday lives either because of lack of concern, ignorance and in most cases because of lack of questioning to such decisions. However, in *Chipembere* gardening project critical questioning proved to be the sources of much dissonances within their gardening practice and as highlighted before such dissonances has in my view provided much opportunity for the gardeners to evolve through the processes of social learning (orientation, self-awareness, de-framing/deconstruction, reframing/co-creation, applying and reviewing). For instance, drawing from OB3 it was interesting to note how a very simple question brought up dissonance to the whole workshop as noted by the researcher when he report that,

> **Pnov2** who was ordered to prepare the nursery bed asked a crucial question to the group, "*nhayi vasikana, ko ari kudyarwa seyi uye papi*?" (Excuse me ladies, how are they going to be planted and where?)
>
> "This question brought a moment of confusion into the group and raised mixed responses among the members.
>
> **P7**, *"…ende ndiani anozomachengetedza*?" (… and who will take care of them?)
>
> **P12**, *"eehe ngationesane vasikana, anombosheyiwa sei maherbs acho nekuti munmwe nemumwe anoda every type murow yake*" (yes ladies lets show each other, how are the herbs going to be shared since everyone would want each type of the herbs in her own row) (Extracted from OB3 coded for memo2 appendix 14)

Furthermore, this kind of dissonance brings about some learning opportunity through negotiations, compromising and overly as a community. However, CD4 in an face to face individual interview (ICD4) argue that, "…the thing of introducing the concept of working as a project it can go down well with some or it can't so the women had small conflicts here and there… but further reports that (within the same interview), …to-date they don't report about petty conflicts…" and this in itself really show how dissonance has played out to provide an opportunity for social learning processes to happen within this CoP. CD4's argument if read critically it can show how *Chipembere* gardening project has evolved in the face of such challenges, conflicts and dissonance to a stage whereby they are self-reliant and know how to solve their issues and this alone requires engagement with various stakeholders and reach an understanding and through this process it's when we can say social learning is taking place. Somewhere else she argued one of the benefits accrued by *Chipembere* gardening project is the appreciation and realization of the benefit of working together in which I argue as a special pose for critical social learning process to materialize.

Furthermore, another interesting insight was that dissonances have the power to pull crowds or bring people together. This provides an opportunity to further interrogate into the root cause of the issue, verify the issue, explore into current practices. And lastly this provides a space for a better solution to the problem/issue. This process in itself cultivates social learning processes to happen among the gardeners. In OB3 it was interesting to note that in the whole herbal gardening workshop the gardeners had a total of 12 informal groupings. These groupings erupted when dissonance was evident and they normally lasted an average of 3 minutes per meeting. In these groupings it was interesting to note how power and seniority played and the convention in these meeting was to co-create a solution, further interrogate the problem and for consultancy as well as verification purposes (see Analytical memo 2 Appendix 14). It was not a secret that in OB3 workshop which was also my own professional area of specialization, when dissonance, misunderstandings and doubts arose, they always consulted me for verification, corrections and further inquiry on. And it is against these observations that I argue for the importance of such dissonance, conflicts and challenges as a medium for a fruitful social learning process in *Chipembere* gardening project.

Added to the dissonance as a medium to social learning process are challenges. From the data it can be noted that *Chipembere* community of practice has excelled in the face of many challenges for instance as reported in Doc Fr1, where it was reported that, "…one major problem highlighted was that of problem animal i.e. goats, hares and birds". This challenge was acknowledged through most of the data collected. It was interesting that added to the problem was the disastrous pest invasion which devastated progress of the garden to almost none. However, these challenges played a pivotal role in promoting social learning in this context. For instance, because of the mentioned problems or challenges a pest control

workshop was organized in which OB2 was done (see Appendix **9**). Therefore, it is in such workshops that processes of social learning are probably expected to be fruitfully experienced or witnessed so as to bring about learning in the gardeners.

Furthermore, as argued before by CD4 that, "…the thing of introducing the concept of working as a project it can go down well with some or it can't so the women had small conflicts here and there…" it wasn't a surprise that there were also challenges brought in by working together as a community such challenges were highlighted by Pvc1 in a face to face individual interview (IPvc1) when she forwarded that, "*Pekutanga tanga chaipo vamwe vakanga vasina kunzvisisa ne kugutsikana nekuti zvinhu izvi zvaizotibatsira.(*at first people were not sure and confident that these things would help us) And she further assert that, *"tichiitira kuti tisanetsana nekuti vanhu vaiti tinoda kuenda pachuru nekuti pakaguta saka tikati ngatiite zvemapuri…"*(we were doing this because we wanted to avoid conflicting with people as the people wanted to be allocated their row at the ant-hill where the soil was fertile hence the reason why we decided to use raffle numbers…". Therefore, working in such challenges as said before is a perfect tenure for social learning to take place.

However, challenges were not always anthropogenic but some were nature inflicted. For instance frost proved over the two years to be of paramount concern since it has disturbed their gardening cycle as well as destroyed their crops (see memo 2 Appendix **14**). Pvc1 reported this challenge with concern when she reports that, "*…apa ikozvino pangomiswa nekuda kwechando nekuti zvinaana rape zvakato dii zvakarohwa rohwa nechando tikatobvisa…"*(we are currently withheld because of frost since all our vegetables such as rape were destroyed by frost and we removed them …". When further interrogated she gave very good insights of how the frost has been a worthy medium for social learning when she argued that,

R: *Zvinoreva kuti gore rakapera hamuna kudzidza kana kuti*? (So does this mean last year you didn't learn anything or what?)

Pvc1: *Takadzidza asi sechinhu chinongoita neseason yachona nguva yacho yekuti mwedzi miviri iyoyo june na july ndeyekuti chando chinorova. Segarden redu riri padhuze ne pachiyi nepadam paya paya chando chinodii chinowandisa. Saka manje ipapao takanga tatombomira vanhu takato seeder maseeds arimo mugarden zvekutoti iye zvino mune maseeds ari mugarden atinototyira kuti dzimwe nhambo anokwanisa kuti angarohwa nechando nekuti madomasi chaiwo akatorohwa nechando wangosara muriwo murefu nesweet cabbage nemaonions*. (We learnt but since it happens seasonally in the two months of June and July frost hits.As our garden is near to the dam it is too cold there. So we put on hold but we have already nursed new crops in the garden that we fear might be destroyed by frost, since all the tomatoes have been destroyed the only plants that survived are tall vegetables, sweet cabbage and onions.)

Fig 12: Frost destroyed crops

Fig 13: New initiative, nurseries protected

This kind of resilience and reflexivity in face of challenges cannot be achieved in a vacuum or by individual effort but through learning together in sound environment which allows such finest events be recognized explored and scrutinized for better practices to pursue hence the reason why I argue challenges as a great medium and an opportunity for social learning in *Chipembere* gardening project.

4.3.3 Community diversity as an opportunity to social learning in *Chipembere* gardening project

Diversity in *Chipembere* gardeners is one of the factor couldn't be ignored because of its potential and ability to bring about learning within the context. Research data was evident to community diversity as a paramount medium for social learning process. Furthermore, drawing from data, diversity celebrated in the potential historical and memorial experiences brought in by gardeners bearing in mind *Chipembere* context discussed in chapter one. Therefore, picturing this in mind it was interesting noting how the gardeners themselves were reflexive of the potential in diversity and how deep gardening practice is entrusted in historical background and diversity in the community. For instance, Pvc1 notes that,

> "*Musiyano uripo nekuti tavakuita tiri pachinhu one saka izvozvo zvinoita kuti tiwane njere moto kubva kunevamwe anenge ari panextdoor kuti iwe madyarire awanga uchiita kana wanga usingagoni uya ari panext newe anogona kuti ugone kutora ruzivo kubva kune uyo ari padhuze.* (There is a difference because we are now doing one thing so it makes us borrow ideas from others next door that the way you have not been planting correctly the one next to you can enable you to get knowledge and skills from one next to you) (adapted from an interview IPvc1)

In this she is very reflexive on the matter of learning from other gardeners as a benefit and this clarifies on the assumed learning as social learning. At the same time as argued before diversity brings about different perspectives to practice. However, a point to note from the data was the fact that if diversity

is not properly managed can hinder progress as noted by P7 who articulates that, "itayi muchiziva kuti hatisi tose tinogona kushandidzana. Zviri nani mukati munhu atsare munhu waakasununguka kushandidzana naye (remember that it's not all of us who can work cooperatively with others. It's better for a person to choose a person she is comfortable to work with). In this statement the participant is very critical of the possibility of diversity in personality as a hindrance to progress and learning whereas in this study I argue mostly diversity in perspectives.

However, contrary to the above it was observed in the data that if diversity is properly managed it can bring about health and sound deliberations among the participants which can result it fruitful social learning. In these deliberations people can collaborate helping each other in learning, "*aaah hazvinetsi kuona unotarisa pasi muvhu especially kana kwavakudziya saizvozvi kana kutarisa pasi pemashizha"(*aaah it's not difficult to see all you need to do is to look on the soil especially when it's warm just like now or else you can look underneath the leaves) (OB2 Pvc1). This is evident to how gardeners can help other members or none members to learn fast and be absorbed into their practices and this is possible through good relations in their diversity. Diversity brings with it diverse participants with diverse areas of specialization. For instance presents of the EO promotes knowledge, experiences and memory sharing which in itself promotes social learning process. Through diversity of participants issues are clarified or verified and this is meant possible through group interactions for example as reported by the researcher in OB3 that, "…peer inquiry was dominant among the small gatherings…" and Consultation with much senior members started…they consulted with **Pc1. P6:** "*ko nhayi zvonzwiyi*?" (Hey, what has to be done?) Therefore, it is in this environment that processes of social learning can be witnessed and tend to instill change in people's attitude and practices.

4.3.4 Mediation artifacts as opportunities for social learning in *Chipembere* gardening project.

Since the establishment of *Chipembere* gardening project research data is evident that there were several mediation artifacts that were employed to enable the gardening project function properly. These artifacts range from training workshops, power relations and indigenous knowledge or prior experiences and these somehow were evident to be a source or driving forces promoting or enabling social learning processes to harmoniously occur in *Chipembere* gardening project.

Data was much evident that gardeners' training workshops posed much of the anticipated learning opportunities from the establishment phase of the garden to the current practices. This was evident in most of interview data especially ICD4 with in which the interviewee (P4) argue that, "…through the work-shopping, of course that was another way of learning where we had discussions and us presenting on deforestation and poaching where we also used different methods such as role play…" and she also acknowledges various forms of training were involved when she said "…presentations, talks, demonstrations and a lot of methods that are involved". Therefore, it was in these training workshops that

much learning opportunities were evident as well as in all three participant observations OB1, OB2 and OB3 (see memo 2 Appendix 14**)**. For instance in OB1 the facilitator "…introduced the members to the donated seedling types and recommendations for companion since there were some onions, peas and various vegetables in the garden (see Pic 1, Pic 2 in OB1 appendix 8)". In this training workshop the researcher observed that the teaching method (learn by doing/ participatory learning) that was employed provided appropriate learning opportunity. And an immediate evaluation criterion was done to assess whether the lesson was understood and people are knowledgeable of the concepts rather than the action or participation of gardeners. In this social learning was promoted in the context.

Furthermore, in OB2 it is evident that the facilitator EO "…gave a general lecture on pests, signs and symptoms of diverse pests and the ultimate signs that can be observed from the plant (see Pic2 & Pic3 in OB2 Appendix 9)" and these training workshops provided classical learning platforms whereby gardeners were not only exposed to new knowledge but also, were challenged in their old ways of knowing. In this they were evident to be more reflexive and this encouraged gardeners to draw from their learning experiences. For instance, IPvc 1 in **OB2** was reflexive when she recalled that, "*ini kuworkshop yandakamboenda takadzidziswa kuti hazvidyi muriwo asikuti zvinotobatsira kudzivirira muriwo kubva kuzvimbuyu"(from the workshop that I attended we were taught that they don't eat the vegetables rather they help in protecting our vegetables from pests)* and these learning platforms promote fruitful social learning process in a *Chipembere* gardening project.

However, power relations proved to be one of the silent variant yet most influential in promoting social learning opportunities to the gardeners. Drawing from data it was evidenced that through decision making processes social learning was made possible. Data is also evident that a distinctive division of labour exists in *Chipembere* gardening project and it's the major factor shaping their gardening practices. In this it was noticed that seniority and experience prevailed in decision-making. For instance Pnov1, Pnov3 in OB3, reported that, "role sharing or tasks are usually given according to seniority, experience and nature of the task". To add on the researcher observed that in OB3 project leaders seem to have an overall decision over project proceedings and planning. Furthermore, knowledge gradient was also observed to have a leading role in shaping and organizing gardening practice within *Chipembere* gardening project. Therefore, with a brilliant leading team like at *Chipembere* gardening project, in an environment where all procedures are properly managed is where social learning processes are likely to happen harmoniously.

Some interesting insights came from P4 in a face to face interview (ICD4) where she posed how power can implicitly cultivate proper learning opportunities when she argue that, "…our role was work-shopping and bringing them together introducing this concept of working together as a project… Also facilitating the formation of a management committee of the project and provision of education… and remember this is the

founding and finding organization whose motive and main objective were clearly outlined as "need to conserve" in earlier discussions and now they are playing a critical role in providing classical learning opportunity as mentioned above. Yet power was evident to be of great influence to an extent that P4 when asked how they are influencing the gardening practices she forwarded that, "I don't want to fully say it's positive in the sense that people might act positively because they know they would come to us for help tomorrow". Therefore, power proved to be of great influence and can create space for fruitful learning interactions.

Furthermore, it was interesting to note that prior knowledge or indigenous knowledge provided much space for social learning process among the gardeners. Drawing from data it can be deduced that gardeners brought with them their diverse prior knowledge into the garden. And through sharing of such experiences or challenging of such prior knowledge social learning exacerbates. In this context it was not secret that such knowledge was evidenced in action. For instance, in a participant observation OB1 when the gardeners were required to mulch without either prior teaching/ lesson or any demonstrations on mulching despite all this P14 screamed, "*aah-aah vasikana chiruva ichocho hachiiti. Tarisayi muone chine mhodzi dzirikutodona and chiri poisonous. Mukachisa pamulch chinodonhedzera mhodzi dzacho munursery and dzinobuda dzikauraya matomatoes ese. Chito chirasirayi kure uko* (aah-aah ladies you can't use that plant. Look this plant has some seeds that are dropping and it's poisonous. If you put it as mulch it will disperse its seeds into the nursery and they will germinate destroying all the tomato seedlings. Throw it far away.). This shows that gardeners are well versed with prior knowledge and they are a great instrument in a social learning setup and practising such mastery of prior knowledge is the great inspiration to social learning process.

Furthermore, Pvc1 in a participant observation OB2 when gardeners were asked other conservatory ways to protect their crops from pests she explained that,

> "*pamusoroyi pane nzira dzakawanda dzimwe dzaisevenzeswa ne madzibaba edu* (excuse me there are several ways some of which were used by our fore-fathers)
>
> 1. *tinokwanisa kusevenzesa madota endove kwozoti emuti unonzi chii?... unonzi muhwete nemukamba* (we can use cow dung ashes and ashes from some trees like this tree called what? … called mukamba (mahogani)

And within the same participant observation (OB2) P13 also recalled "*plus futi tichikura taisevenzesa surf kugeza muriwo zvingaita sekunetsa kana wakanda asi zvaitobatsira* (plus when we were growing up we used surf to wash our vegetables but this can be difficult if the crops are too many but it helped). From the pieces of evidence pulled together above it can be drawn out that prior experiences brought conducive spaces for deliberations, innovations of new practices and in these spaces social learning process flourish bringing about proper learning among the gardeners.

4.4 Social Learning processes in *Chipembere* gardening practices

In this section inductive reasoning was done. In essence inductive reasoning excels in exposing categories or themes on data. In practice this entails a tight scrutiny of data with intend to find evidence to certain categories or themes with the intention to agree or disagree with a proposed theory or hypothesis. Therefore, this section seeks to provide evidence to processes of social learning as proposed by Wals (2007). Therefore, this section will give an opportunity to test Wals' (2007) theory by investigating on its 6 contours/ processes (orientation/exploration; self-awareness; deframing/deconstruction; co-creation/reframing; experimenting; review) of social learning within the context. 6 contours to social learning will be used as analytical lens to investigate and to explain how learning was happening within the context. With this in mind supporting evidence will be pulled from data to describe how the people were learning. Therefore, this section will represent pieces of evidence, which will be later used in chapter 5 to argue *Chipembere* gardening project as a sound space for social learning processes to take place.

4.4.1 Orientation and exploration

This section refers to orientation in prevalence of challenges, catastrophes, threats and explorations for better new ways of doing things, to reduce adverse impacts. This was observed to be a very important phase of learning and to pose a social learning opportunity within *Chipembere* gardening project. Gardening orientation was witnessed starting from the establishment of the project. In which CD4 argue that, the main objective was to respond to the unsustainable gardening practices which were observed by an intern in her research as discussed earlier. And Sebakwe (SCEC) motive to further the project as argued by ICD4 that, "from our side, from a conservation point of view were hoping that if they grow vegetable in the community it will prevent them from poaching for relish". However, it was interesting noting how different stakeholders oriented their efforts differently in this project but at the end all the diverse objectives reached the one goal of sustainable vegetable agriculture and sustaining the community as well as meeting the community's financial expectations and conservation.

However, it was also interesting to note from the data that each and every project orientation was natured to explore some issues or to respond to such issues, risks or threats. For instance in a participant observation OB2 it was reported that the reason why the workshop was called, "…by the *Chipembere* gardening committee after realising a devastating threat to their vegetable plants and progress as a project. And in this scenario, "…pests' invasions and the most devastating invasion being from the cabbage worm." (see memo 3 Appendix **15**)

Furthermore, data is evident that gardeners' engagements happen at different levels and most of the learning methods that were employed encouraged gardener's participation in exploring issues at hand.

For instance, in participant observation OB2, P6 reported that, "I saw we were already a small group of 6 people and there were other 2 small groups like this one other corners as well" and all these groupings encouraged gardeners' interactions with the real situation and to co-research on the problem. Furthermore in such interactions is where critical questions or questioning is done which further intensify the level of explorations and orientation. In OB3 this kind of questioning was evidenced when Pnov 2 asked "…*nhayi vasikana, ko ari kudyarwa seyi uye papi*?" (... excuse me ladies where are we supposed to plant them and how?). Drawing from these incidences presented above critical questioning made the group more reflexive to reality of things and to explore more into best ways of cultivating herbs in a communal garden where open access system is possible (see OB3 in appendix 10).

To add on, orientation and exploration was also witnessed in *Chipembere* gardener's reflexivity in most of the interview data. Range of reflexivity was evidenced from highlights of challenges they are currently facing. For instance, on challenges brought in by working together Pvc1 notes that, "*…dambudziko riri pakuti kana tikati ngatiendeyi tinoshanda paya hatiendi nenguva yataurwa chaiyo…"* (…the problem is that if we say let us go and work we don't meet at the exact agreed time…) to more facilitate workshops whereby the gardeners were engaged to explore better gardening practices. For instance, in the attended participant observations, in OB1 the gardeners were gathered to

a) Learn how to do a vegetable nursery
b) Put in place a watering duty roaster
c) Put in place a guarding duty roaster

Whereas in OB2 *Chipembere* gardeners were orientating on invasive pests and they wanted to explore sustainable ways to control pests in their garden. This workshop co-created a high resolution to incorporate herbs into their garden practice to deter the pests and this resulted a recommendation for another workshop OB3 (see OB3 Appendix 10). And building from recommendations from OB2 workshop the gardeners oriented again in workshop OB3 where they were exploring on appropriate ways of transplanting donated herbs into their garden. The major orientations of the workshop was to, "…highlight the underpinning principles to herbal companion grouping as well as tips to what to look for when propagating herbs as shown in Pic 11, 12, 13 and 14 (see OB3 in Appendix 10). Therefore, making a safe quick concluding claim based on the evidence, it is no doubt that *Chipembere* garden has provided sound space for orientation and exploring processes to materialise both in individual minds and as a community of practice.

4.4.2 Self awareness

Research data is evident that in *Chipembere* context, gardeners became aware of their old ways of thinking whenever they were exposed to new ideas or whenever they felt their prior knowing has been challenged. It was not a secret that lots of evidence was extracted from various research methods used in this study (see Analytical memo 3 Appendix 15). Such evidence can be witnessed in the data however, it is important to note that in some cases self-awareness was not always expressed in words but sometimes by gestures, action and facial expressions which might be difficult to show in writing. For instance as noted in OB1 that, "Whilst EO was explaining participants became curious and started to inspect their reserved nursing beds in their respective rows and P6, P8, P12, P14, P18 were predominant of these actions". This may show how people were challenged by the new ideas and ideally wanted to match or see how their practices was different from the ones explained but this could be problematic to show in writing.

Furthermore, self-awareness was also witnessed in participants reflexive responses for instance P14 when she was asked the appropriate seed plant to her row she said, "…"aah *vasikana ivhu riri mu row yangu ndiro vhudema rakaregedzana, uye paside pe bed iyoyi pane lettuce isinga kanganiswi nemaonions. Saka ini ndingada zvangu kupadyara maonion sezvo asinga dyiwi ne zvitota uye kudaidza zvitota. Plus anozotodzinga mapests akawanda ku lettuce ne peas dziripadhuze*" (…aah ladies the soil in my row is black and is loose and beside this nursing bed there is some lettuce which can be companioned with onions. So I will rather plant onions, which are not eaten by grasshoppers and they do not invite grasshoppers. Plus they will deter most of the pests from the lettuce and peas nearby). Therefore, in reference to the drawn evidence from data, it is proper to claim that the garden was a proper medium to facilitate and encourage self-awareness to happen among its gardeners.

Self-awareness was achieved through gardeners' interactions such that in some instances gardeners became aware of their deeds for example in OB1 it was only, "…until P14 mentioned about the plant and explain that's when she only realised it and took the plant off the garden and was later burnt after the session (Pic 10)." Furthermore, it was also read from data that it was only when people were faced with difficulties or challenges they realise indigenous knowledge and old effective practices. For example in OB2 it was only when gardeners were faced with the most disastrous pests invasion threatening situation and when they were asked about any alternative sustainable or conservatory methods which can be used. In response Pvc1 recalls that, "*pamusoroyi pane nzira dzakawanda dzimwe dzaisevenzeswa ne madzibaba edu: 1. tinokwanisa kusevenzesa madota endove kwozoti emuti unonzi chii?* And P 13 added that, "*plus futi tichikura taisevenzesa surf kugeza muriwo zvingaita sekunetsa*

kana wakanda asi zvaitobatsira" and it is in these typical situations that we may say there has been some self-awareness process that took place.

One interesting insight is that it was through self-awareness that the *Chipembere* project was established at the first place. Reading from data it can be safely said it was after a critical realisation that the current unsustainable gardening practices, which were happening in Rockvale village one, was causing vast forest destruction. Hence, the need to engage and teach this community on the possible repercussions of their current practices which in itself is self-awareness process. However, the above assertion was much evidenced in an interview ICD4 where P4 confessed that, "…from there we realised we needed to meet with the women doing workshop with them about their use of firewood on how, what their action today will affect their future". And further explained that it was, "…only when we were discussing when they realise they actually spend a bit of time to go and look for firewood in the bush which means that probably other people coming from other directions…". Interestingly the gardeners were in agreement to the above observations and they also raised similar insights (P14, P6 in FG1 and Pvc1 in an interview IPvc1). Therefore, the birth of the project although CD4 argues it as not Sebakwe's (SCEC) major intention or project in their planning but rather an incentive for the gardeners to like their initial tsotso stove project (see ICD4 Appendix 17) was as a result of self-awareness processes.

4.4.3 Deframing/ Deconstruction

Data is evident that learning in Chipembere gardening project is full of deframing or deconstruction processes. However, this process happens when participants admits weakness or failures in their prior practices or knowing and are ready to take in new ways of doing things or thinking. However, this process in some case was evidenced to be difficult to capture but could be witnessed as an end product by practice for example when P6 in OB1 "…took the plant off the garden and later burnt it after the session (Pic 10)" (see OB1 appendix 8) or when "…2 small informal groupings quickly formed one made up of 5 senior members including leaders of the project (ref **Pic 4)"** as reported by the researcher in OB3 (see OB3 appendix 10)and these actions can portray action of de-framing. Whilst in some cases participants would confess it out, for instance in OB3 when **Pc1** subconsciously shouted, "*oooh Mwari wangu, ndanga ndisingazivi zvese izvi,*"(oooh my God I didn't know all this) or when Pvc1 came to the researcher asking him, "...*tinokumbirawo kuti mutibatsirewo kupedza gakava riri pano"* (… may you please help us to settle this argument) in these scenarios gardeners had already questioned each other's frames and are more than prepared to take in new knowledge or practice as a verification to their prior beliefs or knowing hence we can say they had already de-framed their prior understandings.

Furthermore, de-framing/deconstruction processes were evidenced in gardeners' questioning, for instance when Pc1 asked Pvc1 that, "*vasikana ngatimboonesana ndimi munekaruzivo zvoitwa seyi?, aah zvinhu zvacho izvi*" (ladies let us show each other because you have the knowledge, How is supposed to be done? aah these things). Furthermore, it was also noted that whenever there was a misunderstanding, problem or a challenge the participants would quickly form informal meetings or groupings and later re-join as one meeting. In these informal meetings they would deliberate on the topical issue. For example in participant observation OB3 participants met 12 times for an average of 3 minutes per each informal meeting. These informal meetings provide a good platform for de-framing process to happen. It was also noted that even in their day to day gardening practices de-framing is encouraged for instance, Pc1 state that, "*Inini ndiripo pakuti kana tiine basa kugarden ndinotanga ndaunganidza vanhu ndoti munoda kuti tiite seyi?* (I'm there so that whenever we have some work in the garden I call all the members and ask them what do you want us to do?). Pc1 added that, "*Ndikataura chinhu vakasandinzwisisa ndinovaunganidza ndoti kusandinzwisisa kwenyu kunoda kuti ndiite seyi tovhara garden here?"* (if I say something and the people fail to understand me I will call them and ask them what they misunderstood and whether they want us to close down the garden or what?). However, it is in this kind of questioning that promotes deliberations within the gardeners and such deliberations bring about de-framing process and this process is very critical in social learning process.

4.4.4 Co-creation/Reconstruction

Co-creation or reconstruction although co-creation will be the mostly used term, was witnessed much in the data. In *Chipembere* gardening project decision making process was witnessed to be a democratic process, open to everyone including non-constitutional members and this process can be argued as a co-creation process. Co-creation is also promoted and advocated for within the constitution of the garden (Doc GC) and one of such principle states that, "*Nyaya dzese dzinezvekuita neboka remadzimai rebindu dzinofanira kukururururirwa ku bindu zvakadzama kwete kudzimba*" (all garden issues shall be discussed in-depth at the garden and no garden issues shall be discussed at home). Therefore, *Chipembere* gardening project values the need for an open deliberation or democratic system whereby all issues are openly discussed in an environment that is conducive and thereby, allowing each and every gardeners' input into the solutions of issues at stake and this is what we call co-creation process.

However, it is important to highlight that reading from the data there were two major forms of co-creation that were realized namely individual and group co-creation. As highlighted individual co-creation was mostly observed to happen in an individual and mostly in her own mind and was evidenced in some cases through practice. For instance, in OB3 when people were faced with some watering duty allocations when P14 state that, "ko vakasazo dhiridza zvinhu zvotsvira mahara hazviiti ngatingoita seproject" (what is the people fail to water and the herbs will die no it is not practical lets just do

it as a project) this shows that she had already deframed and co-created some sense in her own mind and in this case she had said out her mind.

Still on individual co-creation in some instance it was evident that in some cases gardeners co-created by making some meaning by interacting with people, environment, challenges etc. For instance, P6 in OB2 when she was asked why she had identified the pest as a cabbage worm she explained, "*…because rinodya sweet cabbage plus futi tariwana muma cabbage chete"* (because they feed on cabbage plus we found them only in a cabbage crop) from her response it can be drawn that she was attaching and creating some meaning to her observations.

In contrast to personal or individual co-creation processes was group co-creation whereby people would make meaning together or reach a democratic decision together as a group. For example as noted by Pvc1 when she was explaining the major different between their traditional individual gardening and Chipembere gardening project and she stated that, "*Musiyano uripo nekuti tavakuita tiri pachinhu one saka izvozvo zvinoita kuti tiwane njere moto kubva kunevamwe anenge ari panextdoor…"* (there is a difference because we are now doing one thing so this will allow us the opportunity to acquire knowledge from other people who are next door). Pvc1 further explain how gardeners are challenged to reach a co-creation process when she states that, "*…kuti uyu pake pake zvinopa shungu kuti uyo kunyangwe ari padhuze newe asingadi kuti aite aiitewo kuti kumba kwake agoona zvingamubatsirawo."*(individual rows will give some motivation so that even a person near who is not keen to want to do the same so that they get something that will help them at their home). Therefore, the above evidence can be slightly interpreted differently in the sense that Pvc1 realised the possibility of co-creation of an individual within a group since you are challenged to co-create which in this case might be different from a democratic co-creation process among a community of practice.

Whereas in a democratic co-creation process as witnessed from an interview with Pc1 (IPc1) where much of her emphasis referred to group decision rather than individual. For example when she was asked how she (Pc1) solves some challenges or problems inflicted by working together as a project she explained, "*Ini ndinozoriisa muvanhu…"* (I will refer back to the people..." and she further explained that, "*…vanhu ndivo vanoita zvavanoda naye nekuti ini ndoga handina chandinokwanisa kuita"* (people are the ones who decide what they want to do with the person because I can't do anything). And this can truly explain how in *Chipembere* gardeners can reach onto a democratic solution and this process can be explained as a co-creation process.

Furthermore, data is also of evident that even the gardening practice is an action of co-creation process and P13 clearly stated this in a focus group interview (FGI) when she state that, "*kazhinji zvinhu*

zvatinoita mugarden medu imomo tinoita na vamudorman saka vanotiudza kuti iyezvino ngatiiseyi ichi apa, ichi apa." (in most cases whatever we do in the garden we do it with our extension officer who will advise us that this time lets grow what and let's put this here and that there.) And at most gardeners were appreciative of the fact that the gardening project has unify them, brought them as one and encouraged them to do collaborative gardening practice, sharing ideas through practice and learning from each other (FGI P13, FGI P14, IPcv1, IPc1 and IEO). Therefore, with all these evidences it can be safely concluded that *Chipembere* gardeners have been engaged in constructive co-creation processes and it is through these processes that social learning is enabled within *Chipembere* gardening project.

4.3.5 Applying/experimenting

Practice within the gardening project was noticed to be a key concept to knowledge application as well as in experimenting what has been co-created. Therefore, it will be frank to mention that much of the gardening practices were an experimenting phase since these gardeners were new and were still learning to work together. And it was drawn from the data that applying and experimenting was the source of learning hence CD4 in an individual interview strongly argue that the people are, "...learning by doing and there are also lessons or informal well they are informal lessons which they are taught by the AREX officer *anditi?"* Therefore, application was noticed to be crucial in a *Chipembere* gardening project since it is through this process that gardeners are exposed to various challenges and may learn to cope or deal with the persuasive or recurring problems or issues.

It was also interesting to note how division of labour and seniority as argued before, took precedence in the application phase. For instance, as was noted in OB1 that within their practices, "the most experienced members took the most cautious roles in the process… and this was further witnessed when, "…P5 sow the nursery whilst Pnov6 fetched water to water the nursed bed and she was also present when members were taught the proper way to water…" this shows how in most cases power proceed in *Chipembere* gardening project and how participation is perceived in *Chipembere*. However, in the above mentioned scenario Pnov6 is not a constitutionally approved member to the *Chipembere* gardening project but was just a relative of P5; hence it was a bit ambiguous for her to fully participate in the application of the knowledge learnt.

Applying was also noted to be the most effective way in which knowledge can be passed through generations. This was interesting to note intend participation in children for instance, in OB1 the researcher noted that whilst, "…other members were sowing, fetching water and the young watching carefully (ref to Pic 5)". And it was not a secret from data that gardeners were able to recall such

practices that were practiced by their fore fathers and the experiments they have been trying out in their practices. Pvc1, P13 and P14 are true example to these observations (see Analytical memo 3 Appendix 15). Therefore, from the few presented evidence it is not a secret how information can be passed on through generational lane. And how *Chipembere* gardening practices have been somehow influenced or informed by past experiences, which are best, cultivated in by practice, applying knowledge and experimenting with new knowledge.

Much of the evidence found in *Chipembere* gardening project explains how gardeners have been working together applying their knowledge through practice and experimentation in their garden (see analytical memo 3: Appendix 15). For example drawing from the field report Doc Fr1 it was noted that when birds were a big threat to progress some ribbon from video cassettes were put to drive birds away and to be frank this was just experimenting but it worked. Furthermore, it was interesting to note how gardeners have learnt from recurring frost which normally destroy their crops and Pvc1 in an interview was explaining how they are experimenting in their garden when she pointed out that, "*Saka manje ipapo takanga tatombomira vanhu takato seeder maseeds arimo mugarden…"* (so we held on there but people have already started some seed nursery in the garden). It was interesting to note that after interviewing Pvc1 a ground truthing visit to *Chipembere* garden was done where I observed that indeed most of the plants were destroyed but there was a surviving nursery almost ready to be transplanted. The nursery was walled by thatch grass to protect it from frost as shown in the pictures below (figs 11 and 12, repeated here for emphasis as figs 14 and 15). And this just struck my attention to how these gardeners have been innovative and are learning in face of challenges bring up these immaculate ideas into practice and experimenting within their garden.

Fig 14: Frost destroyed crops

Fig 15: New initiative nurseries protected

4.4.6. Review

Review in the gardening practice was done mostly by the leading funding organisation but from the gardeners themselves reflexivity was noted in the interviews and observations. However, it is worthy to noting that ever since the establishment of *Chipembere* gardening project there no proper review on meeting minutes or workshop reports that were documented for the garden. Despite all this it was interesting to note that gardeners were very reflexive in relating their practices as a project and to challenges they have met as a way of reviewing their progress.

As mentioned before, most of the review was done by SCEC through progress assessments and monitoring processes. From document analysis such act was clearly reported on in Doc Fr1 for instance the field report state their main objective for the visit as, "To monitor the project and also for progress evaluation" and it further recite that, "Our visit to the site was of great importance because we managed to have a visual assessment of the progress of the project. To assess progress being made in the garden." According to Sebakwe Conservation and Education Centre, review visits are of importance and may bring positive progress or have an influences in the gardening practices as reported in Doc Fr1 that, "This progress may have been caused by our last visit which could have instilled morale in them ".

Furthermore, as highlighted earlier the gardeners themselves have not sat a review meeting to assess their progress or the shortfall in their experimental practices. As noted from the field observations such processes are embedded in their practice but they only lack documentation. For instance, the gardeners are reflexive in revealing successes in their practices for example P13 in an focus group interview FGI note that, "*...iyezvino nekutiudza kwavakaita takaita zvimastove izvozvo zvinochengetedza ndinotobika zvinoibva netuhuni tushoma shoma ndisinagiti dambudziko"* (now because of the education we received we have our stoves which save I can cook with very little firewood without any problem). This kind of confessions shows partly how people do personal reviews in their practices and appreciate the new practices and technologies. Therefore, *Chipembere* gardening project has so far provided some space for review process to happen although few have been achieved so far. However, this research does not doubt the potential of review in promoting better practice or *Chipembere* as a special space for such a very essential process.

4.5 Conclusion

This chapter has served its purpose that is to present relevant data gathered from *Chipembere* gardening project. In a way this chapter has provided some evidence to the research questions, in this way achieving the research purpose of this study. This chapter has synthesised the bulk data into sensible information, which will be used as the basis for chapter five. In essence chapter five will built

upon chapter four using the presented data to present an argument. Therefore, the next chapter will interpret the presented data in chapter four and discuss relating to the research questions and purpose of the study.

Chapter five

Data interpretation and Discussion

Introduction

In this final chapter I will begin by being reflexive on my research experiences in doing such a study. The chapter will further give some major insights and findings of the study by giving a detailed account of the relationship of these findings to the research questions and goals; theoretical frameworks used and to prior literature of similar research contexts and theme. Furthermore, in this chapter I will explore and explain the implication of such findings to future orientations of research in community projects/initiatives in the fields of environmental conservation, environmental education and rural community development. Therefore, I will argue the importance of these findings and further recommend this research report as a tool or instrument in promoting environmental education in community context through community projects such as *Chipembere*. In order to systematically achieve this, two major analytical statements were formulated which lead into an intense discussion. Therefore, this section was designed in a manner to broaden our understanding of the data interpretation and the research findings. Lastly it is in this section I gave some recommendations and suggests some grey areas of research in this context and in the field of social science, which can be further, investigated or pursued.

5.1 Research focus

Although most aspects of this study have been addressed in earlier chapters of this research report, for the convenience, and to re-establish the key dimensions of this study, I will briefly re-introduce them here:

Specific objectives of this research are to:

- Explore how *Chipembere* gardening project enables social learning process.
- Generate ideas and draw recommendations that could be used to promote social learning in emerging and already existing projects.

Research question

In order to achieve the above objectives, this research sort to answer following questions:

- Why was *Chipembere* project started?
- What are the main gardening activities involved within the project?
- What have been the challenges and opportunities faced by the gardeners?

- How is social learning taking place within *Chipembere* gardening project?
- What was and can be done to improve opportunities for social learning within *Chipembere* gardening project?

5.2 *Chipembere* gardening project can be viewed as a Community of Practice (CoP).

It is in the best acknowledgement of this research report findings that I can safely make a claim that *Chipembere* gardening project is a Community of Practise as described by Lave and Wenger (1991). Furthermore, this claim is supported by Wenger (1998) when he notes that a Community of Practice defines itself in three dimensions:

- **What it is about**- its *joint enterprise* as understood and continually renegotiated by its members.
- **How it functions** – mutual engagement that bind members together into a social entity.
- **What capability it has produced** – the *shared repertoire* of communal resources (routines, sensibilities, artifacts, vocabulary, styles etc.) that members have developed over time. (Wenger, 1999, pg. 73-84)

However, research findings are evident that *Chipembere* project has a very distinct *joint enterprise*, mutually engaged as *Chipembere* project and capabilities are celebrated in the shared repertoire of natural resources conservation through vegetable gardening. Furthermore, it is beyond any doubts that *Chipembere* members clearly view themselves as a community of practice and are known by the same identity. Therefore, this conforms well to Lave and Wenger (1991) classification of a Community of Practice (CoP) such that this claim holds water in face of data evidence represented in chapter four and interpreted in this chapter (also see Analytical memo 1 Appendix 13).

As mentioned above *Chipembere* gardening project is mainly anchored by the need to conserve, community development and poverty alleviation through subsistence vegetable gardening (ICD4, FGI, Doc Fr1, Doc GC). This however, resonates well with Lave and Wenger's (1991, p. 2) description of a Community of Practice as a, "group of people who engage in a shared domain of human endeavour ..." In this case shared domain being vegetable gardening to sustain the environment and enrich the community. Wenger (2007, p. 1) further define groups such as *Chipembere* as, "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly". And this leaves no doubt that *Chipembere* gardeners are bond by the passion of gardening and they regularly meet in the garden every Thursdays to perfect their practices and orient onto upcoming challenges or opportunities. For instances these claims can be evidenced in OB1, OB2, OB3 (Appendixes 8, 9, 10) where women gathered to learn to grow vegetables, protect them from pests and lastly on more sustainable conservatory methods to deter pests in their garden.

According to Lave and Wenger (1991) if a community qualifies in their descriptions it is not a mistake to classify it as a Community of Practise hence the reason in this study I have classified *Chipembere* as a Community of Practice. To add on, Pesanayi (2009, p. 66) note one important principle in the domain of a Community of Practice, which was also much evident in *Chipembere* gardening project that, "membership implies commitment to domain (e.g vegetable gardening) and thus a shared competence that distinguishes members from other people". Therefore, by just assessing *Chipembere's* commitment to gardening and the shared competence produced by such vegetable, herbal gardening knowledge through various interactions you can easily distinguish it from other various individual practices or groupings (FGI, EO, ICD4). And to add on, the community is now distinguished from the rest as the only vegetable producing project in Sebakwe communal area as confessed by P4 in an interview ICD4 when she acknowledged that,

> "*Whilst it's not much because it's subsistence there are no vegetables basically in the whole area so it's only one garden in the whole ward, so the market for vegetables is there whether they sale them for R5 or a $1 but it's a R5 extra which they did not have".* (P4 in interview ICD4)

Furthermore, data is evident that membership to *Chipembere* gardening project was predetermined by residence in Rockvale village 1 and overall by having an improved or fuel-efficient stove (*tsotso* stove) (see Analytical memo 1 appendix 13). Likewise, this is what Wenger (1998, p. 5) argue for when he proposed that identity is, "a way of talking about how learning changes who we are and creates personal histories of becoming in the context of our communities". Therefore, applying this understanding in essence identity as *Chipembere* Community of Practice has its own history and becoming part of the community you should have learned to be part of it. Furthermore, in the same line of argument of belonging to this community of practice Lave and Wenger (1998, p. 74) argue that, "membership in not just a matter of social category, declaring allegiance, belonging to an organisation, having a title or having personal relations with some people" but communities are defined rather, "as people who engage in a shared practice whose meaning they must negotiate with each other" (Lave & Wenger, *ibid*, p 74).

In essence when the above understanding is applied to *Chipembere* it is when the women meet in the garden every Thursdays watering, sharing some tasks and duties (OB1 and OB3), discussing matters arising to the fullest (OB2) and coming up with new ways of doing things and new gardening practices (OB3) that I can safely claim that *Chipembere* project is a Community of Practice. This claim is further asserted by Pesanayi (2009) when he realised in a similar research context that Community of Practice members engage in joint activities, discussions, helps each other and shared information and he surely claimed this community as a Community of Practice. However, Pesanayi's (2009)

observations were also evident in *Chipembere* Community of Practice and this makes this claim valid in respect of this research's represented evidence in chapter four the above discussion and further evidence from literature and prior researches such as Downsborough (2009) (also see Appendixes 8; 9; 10; 13).

To sum up, a CoP can be described by its joint practice as noted earlier. Pesanayi (2009) researching in similar context and drawing from Wenger (2007) realised that, "gardening members are not merely members but practitioners who, develop repertoire of resources forming a shared practice" i.e *experiences, stories, tools, ways of addressing recurring problems* (p. 2 *my emphasis*). Putting these understandings forth it is interesting to note how *Chipembere* gardening practices resonates very well with Lave and Wenger (1991) Community of Practice theory and how best this theory can classify beyond an reasonable doubts such projects. Furthermore, Wenger (2007, p. 4) argue the above understandings to be critical since, 'it allows us to see past more obvious formed structures (such as *Chipembere*) and perceive the structures defined by engagement in practice and the informal learning comes with them". Therefore, this gives a reason to value *Chipembere* project beyond its practice as a community of practice and value its potential in bringing learning among its members.

5.3 *Chipembere* gardening project enables social learning process

It is in this section that I argue for the potential of *Chipembere* gardening project as a medium in which Social learning processes can happen harmoniously. Furthermore, I gave a fair discussion on the most argued essentials/instruments for social learning namely conflicts and dissonance; framing/deconstruction and lastly Reframing /co-creation among others which were strongly evident in *Chipembere* Community of Practice (Wals, 2007; Wals & Heymann, 2004). These processes posed critical opportunities for social learning processes to take place and responsibly influenced or shaped *Chipembere's* gardening practices and gardeners' interactions as well as enabled learning to harmoniously take place in face of challenges, prevailing threats and risks to their practices. Therefore, these processes will be discussed in detail in this chapter and will automatically lead to my conclusion in doing such as research.

5.3.1 Diversity, Dissonance and Conflicts as meaningful space for social learning process

Diversity, Dissonance and Conflicts in *Chipembere* Community of Practice as presented in chapter four has proved to be of great importance in facilitating social learning processes and this observation strongly agree with Wals (2007, p. 39) when he argue that social learning conceal great diversity. It is necessary to note that there is an intertwined connection between the three mentioned spaces (diversity, dissonance and conflicts) for social learning processes. However, in *Chipembere*

Community of Practice diversity was noted to be crucial in triggering dissonance and conflicts among the gardeners and these two processes are critical in facilitating social learning processes. Drawing from data it was noted that, whenever gardeners were exposed to threats, risks such as pest invasions as the case in OB2. Secondly, when gardeners were exposed to new ways of knowing or new knowledge conflicts and dissonance always cropped up among the gardeners in pursuit of better ways to deal with the threats and challenges. For instance, in OB3 workshop research data is evident of twelve small group meetings in between lasting approximately for three minutes each and in these meetings gardeners were deliberating on cropping up conflicts and dissonances. And it is in these moments that Wals (2007, p. 40) argue for, "value of 'difference' and 'diversity' in energising people, creating dissonance and unleashing creativity in their practices".

Furthermore, scholars like Apple (2007); Bradburry (2007); Glasser (2007) cited in Wals (2007) also argue for the possibility of social cohesion and power of collaborative action that preserves the (unique) qualities of each individual within a Community of Practice. Therefore, diversity, dissonance and conflicts are pivotal in achieving a proper social learning process in this context. However, Wals (2007, p. 39) warns us when he note that, "success of social learning depends a great deal on the collective goals and/ or visions shared by those engaged in the process" but "whether such collective goals/visions can actually be achieved depends on the degree, on the amount of space for possible conflicts, oppositions and contradictions". Hence the reason in this research report I claim *Chipembere* gardening project as space diversity, dissonance and conflicts to bring about meaningful social learning process and further recommend creation and proper facilitation of such meaningful spaces in community projects.

However, given the importance of diversity, conflict and dissonance in social learning Wals (2007, p. 40) urge us, to be mindful of people's comfort zones or dissonance thresholds when he also points out that, "if the process takes place too far outside of this zone, dissonance will not be constructive and will block learning" furthermore, he also points out that, "if the process takes place well within people's comfort zones –as is the case when homogenous groups of like-minded minded people come together – learning is likely to be blocked again" in simple he suggests that, "there is no learning without dissonance and there is no learning with too much dissonance."

Drawing from the above discussion, it can be noted that the key concept of Wals' (2007) social learning theory is grounded in the diversity of participants or stakeholders and in differing ideas which is challenged by their participation towards a common goal in a community of practice. Hence, he argues for diversity as the keystone to social learning and if perpetuated properly it brings about sound learning in a community of practice *(*Wals, *ibid*). Therefore, it is against this understanding that I

further recommend EE practitioners, Community Development Officers and any other personals working to improve rural livelihoods through community project initiatives with intention to achieve sustainability and learning to properly consider participants' dissonance thresholds. And be creative in creating enough spaces to unlock or utilize such dissonance thresholds to achieve proper social learning process.

It is not a mistake at this moment to claim that through the discussed opportunities to social learning process namely diversity, dissonance & conflicts. *Chipembere* gardening project has provided some space for such processes to fruitfully mature among the gardeners. Furthermore, as supported by Wals and Heymann (2004, p. 7) who argue for, " cultivation of these conflicts and making them forces for conceptual change and creative problem-solving as a pre-requisite for arriving at solutions that people identify with and act upon, as they are their *own* solutions." *Chipembere* gardening project has provided such means for co-creativeness and a meaningful space for social learning processes to take place. However, Lijmbach et al. (2002) cited in Wals and Heymann (2004 p. 7) reminds us that conflicts, dissonances and diversity "may not bring a consensus decisions about everything but there might be a renewed sense of community and interdependency and even a respect for differences" and this best describe social learning.

5.4 *Chipembere* gardeners learnt predominantly through Participation.

Indeed there are many forms of learning *Chipembere* gardeners have been exposed to which includes facilitated training workshops, discussions, problem talks among others but however, the most predominant method these gardeners have been deeply exposed is learning through participation. Therefore, in this section I will discuss mainly how *Chipembere* gardening project has provided meaningful space for participation and how this participation has influenced or facilitated social learning process among its gardeners.

Indeed gardeners' participation and involvement in *Chipembere* gardening decision-making processes, training workshops etc has been the key source of inspiration for learning within *Chipembere* gardening project (see appendix 13; 14 and 15 respectively). This study's data evidence is in accordance with this observation and further suggests that through participation, processes of social learning were witnessed to be of prevalence in *Chipembere* gardening practices. However, as noted by Scott and Gough (2008) in Reid, et al. (2008, p.81) that, "people and groups who promote or encourage environmental learning and education can have widely-differing assumptions about both its purposes and processes and about participation by learners in both their learning and hence in any social action they may take". Hence the reason in this research I have adopted pluralism understanding of the meaning of participation and this shall be the operational definition of participation: *deltagelse*

which implies "to take part in" and *medbestemmelse* which implies, "to be involved in decision-making and to have a say" (Reid, 2008, p. 188). Therefore in its pluralistic meaning participation is conceived as the act of "becoming part of", "taking part in", "being a part of" or "being involved in or with" and in this sense whether as an active or passive actor in that community (Reid, *ibid,* p. 188).

Furthermore, it is important to mention that, the greatest assumption of this research was anchored on the view that there is some learning-taking place in *Chipembere* gardening project. However, this assumption it's still crucial to this research and as discussed in earlier chapters, data is also evident of the high prevalence of such learning processes identified in *Chipembere* gardening systems. However, this assumption conceals well with Wals' (2007, p. 37), argument that, "learning does not take place in a vacuum but rather in rich social context with innumerable vantage points, interests, values, power positions, beliefs, existential needs and inequities" (Wals & Jickling, 2002; Wals & Heymann, 2004). Hence, the reason in this research report I strongly argue *Chipembere* gardening project as a meaningful space for fruitful social learning processes.

As mentioned before, participation in Chipembere gardening project is an open access system whereby even non-members can fully participate (see Appendix 8; 9 & 10). Research data is evident of participation as a medium for social learning process within the context. This observation was strongly supported by P4 in an individual face-to-face interview (ICD4) when she was asked:

R: So maybe…, so they are learning! How are they learning?

P4: By doing

R: Learning action approach

P4: No, please learning by doing and there are also lessons or informal well they are informal lessons which they are taught by the AREX officer *anditi*! Maybe she shows them, sort of show and tell...

In essence learning by doing is part and parcel of the participatory framework and this form of learning is highly esteemed in social learning as Scott and Gough (2008, p. 85) argue that "… all demand participation because all involve learning - and all learning involves participation" therefore, the two are intertwined and inseparable. Hence the reason I argue for the importance of Communities of Practice such as *Chipembere* to be of critical value in promoting social learning since they provide a pool of participatory spaces or opportunities which are argued to be inseparable from learning (Scott & Gough, *ibid*). Further supported by Lave (1996, p. 8) who argue that learning is inseparable from practice, "learning is an integral aspect of activity in and with the world at all times".

Furthermore, participation was witnessed to be of great value to the gardeners. PO2 drawing from participant observation OB2 argue that, "…role sharing or tasks are usually given according to seniority, experience and nature of the task…" It was interesting to note the same practice in OB1 where, "the most

experienced members took the most cautious roles in the process…" In practice it was also interesting to note that, "…P5 sows the nursery whilst Pnov6 fetched water to give to P5 to water the nursed bed yet Pnov 6 was also present when members were taught the proper way to water…". In essence this is what Wenger (1998, p. 7) describes to when he forwarded that, "For *individuals*... learning is an issue of engaging in and contributing to the practices of their communities. For *communities*... learning is an issue of refining their practice and ensuring new generations of members". Such that Pnov 6 as a non-member to *Chipembere* gardening project learns at the edge or peripheral "taking part" in pursuit "to become" whilst P5 "is part of" and participate in pursuit to refine or perfect practice and to accommodate new members. In this light participation is conceived as a process of becoming a member of a community (of practice) i.e. in nutritional gardening, whereby, a new comer is expected to communicate in the language of the community, act accordingly to particular norms which are normally negotiated in the process of consolidation and learners become potential reformers of the practice (Sfard, 1997, p. 8).

Furthermore, noticeably in pursuit "of becoming" *Chipembere* gardening project has provide much space for participation "to belong" to the community. For example, in OB2 it was realised that EO instructed: *veduwe munhu nemunhu parow yake wotarisa kuti hapana here tuzvimbuyu pamuriwo wenyu.* (people everyone must go to your row and look if there are any pests on your vegetables) and this kind of instruction brings about a "shared repertoire" (orientation) among the gardeners and eventually they are mutually engaged in a "joint enterprise' (participation) Wenger (1998). And this creates great sense of belonging and best define gardeners as a community of practice. To add on, participation was prevalently noticed in *Chipembere* gardening practices for instance in OB3, "after agreeing on a single bed Pvc1 took over the task to prepare the nursing bed from Pnov3 and demonstrated to the rest of the group how it is done". However, most of the activities in which gardeners were involved were mostly hands on and IPvc1 strongly argue for such participation as an opportunity for social learning as she note that "*...uya ari panext newe anogona kuti ugone kutora ruzivo kubva kune uyo ari padhuze"* (the one close to you can enable you to gain knowledge from the one next to you).

Furthermore, of interest was how *Chipembere* gardening project has provided a space for intent participation. For instance, in OB1 the researcher noted that, "…other members were sowing, fetching water and the young watching carefully (ref to OB1 Pic 5)" and this is what Rogoff *et al*. (2003 p. 176) explains about when she describe intent participation as, "keen observation and listening-in" by children in some cultural communities in which children are part of mature community activities yet are routinely segregated from full range of adult activities. In the context this was witnessed and it was interesting observing how children were involved in the daily routines (such as watering, cultivating, and scaring wild animals) yet restricted from more involving tasks, which PO2 argue that, "…role

sharing or tasks are usually given according to seniority, experience and nature of the task." However, despite this segregation Rogoff et al. (2003) argues intent participation as a powerful form of fostering learning. To add on, as supported by Rogoff *et. al.*, (2003, p. 176) intent participation is hardly recognised in communities of practices and "it seems to be taken for granted or overlooked" and literature is evident that this area has received relatively little research attention. Hence, the reason I recommend the need for further research in this area particularly on how communities of practices have developed or equipped these minors with capabilities to renegotiate their way into community based project initiatives and to be better future players.

This is because in the research context data is evident on how people when are exposed to new ways of thinking or challenges resort to indigenous ways of thinking or of doing things yet as explained before as young ones our cultural communities segregate children. For instance, when gardeners in OB2 (see Appendix 9) were asked for better and more sustainable ways to prevent pests from their garden IPvc1 strongly suggested that, "*pamusoroyi pane nzira dzakawanda dzimwe dzaisevenzeswa ne madzibaba edu: 1. tinokwanisa kusevenzesa madota endove kwozoti emuti unonzi chii…" (*Excuse me there are many ways some of which were used by our forefathers: 1. We can use cow dung ashes and ashes from this tree called…). And this kind of knowledge leaves us with little doubts that it should have been acquired through intent participation and remembering also that IPvc1 is the same person reported that "she was brought up in an irrigation farming family" and recognise her capabilities as the one most knowledgeable among other gardeners to earn a spot light as the first chairwoman of the garden (see Appendix 12). Therefore, recognising such potential in intent participation and its promise for de-framing and co-creation processes this is a grey area I would suggest for further or future researches.

5.5 *Chipembere* gardening project provides space for gardeners' reflexivity, co-creative and become a community.

Wals and Heymann (2004) argue that where, "different perspectives, kinds of expertise, values and interests converge in a consensus-seeking process that inevitably will not take place without conflicts. With this understanding in mind that's the reason in this research I argue for *Chipembere* gardening project as a space for reflexivity, co-creativeness and the eager to become a community. In pursuit to achieve such determination the process of social learning overrides. Therefore, in this section I will discuss how *Chipembere* gardening project has provided such space for reflexivity, co-creativeness and the eager for belonging and how this has eventually resulted in propagation of a meaningful social learning process.

Research data is evident that through continuous engagement and participation in *Chipembere* gardeners managed to organise themselves, create a reflexive, resilient, flexible, adaptive and co-create new sustainable practices and according to scholars this is evident of social learning process (Keen *et al*., 2005; Wals, 2007). For instance, it is not a secret that over the 3 years of practice *Chipembere* has marked both successes and failures in their practices. However, their failure was mainly aggravated by persistent pest inversions and frost. Drawing from Doc Fr1 "…one major problem highlighted was problem animals i.e goats, hares and birds" but this gave a learning opportunity for the gardeners to co-create until they resorted to Video Cassettes ribbon to scare birds away and vertiver grass for underground fencing to prevent rabbits.

Furthermore, borrowing from IPvc1 words "*Takadzidza asi sechinhu chinongoita neseason yachona nguva yacho yekuti mwedzi miviri iyoyo June na July ndeyekuti chando chinorova. Segarden redu riri padhuze ne pachiyi nepadam paya paya chando chinodii chinowandisa"* she confess how they have been tormented by frost and admit how they have been let down by this phenomenon and was kind enough to be reflexive and admit they are still in the learning phase however, they had embarked on another thatching around nurseries project this year (see Fig 12 & 13). It is such space Wals (2007) argue as an environment conducive for social learning to fruitfully take place.

To add on, gardeners were aware of the persistent catastrophes and threats and how these have kept them as a community focused on successful vegetable gardening. Pc1 in an interview (IPc1) argue that such problems and threats including those inflicted by other gardeners have made them strong by time and have taught them how to manage each player and challenges. Therefore, it is in such communities of practices where Wals and Heymann (2004, p. 9) argue that what matters most is the interaction between the people that brings about possibilities or opportunities for meaningful learning. Hence, the reason I strongly argue *Chipembere* gardening project as a meaningful space for social learning processes.

5.6 Conclusion

It is in line with the presented and discussed evidence that I can confidently conclude Communities of Practices (CoP) such as *Chipembere* gardening project enable social learning process to happen. This is however, because of various opportunities they offer which range from diversity and dissonance amongst stakeholders', shared institutional structures such as norms, values and beliefs; social cohesion; and the power of collaborative action that emerge in a community of practice. Such that in the research context social learning has brought much benefit to *Chipembere* community and their practices, behaviour and psychological perspectives have evolved with time.

Therefore, I suggest that in future if social learning is properly cultivated or facilitated in similar contexts it is likely to bring about sound learning opportunities, accrue financial benefits and social cohesion among stakeholders. My last recommendation although has been discussed earlier will be for environmental practitioners to be mindful of dissonance thresholds of their participants in order to achieve meaningful learning (Wals & Heymann, 2004). It is also my personal view that if social learning process is natured properly within various community learning centres and rural development initiative projects they can achieve a sound natural resource management system.

5.7 Research limitations

This research was done in a case study form hence its findings are contextual to this particular which might have produced a rich and detailed information about the case (Stake, 1995) cited in Schwandt (1997). However, as highlighted earlier its findings may not be generalized but can be transferable to similar context. This helps to appreciate the fact that findings are not replicated in similar contexts but are still notable to us environmental educators and to those exploring variability in social learning. Wals (2007) notes that it is difficult to capture social learning as a cycle. Furthermore, given my professional history and attachment as the researcher in the case negotiating objectivity has been a great challenge although using strategies to detach myself from the case during data collection and analysis process were important for the objectivity of the study.

At this moment in time let me take this opportunity to confess that researching social learning processes is one of the most difficult and challenging yet worthy and interesting to pursue. This is because in most cases processes of social learning as stipulated by Wals (2007) are not static but dynamic; they are neither linear nor cyclical; they are not physical nor tangible rather experiential and can happen inwards and as a researcher all you can do is to watch, witness and carefully document the results of such processes. Imagine how difficult it is to report, record on a process that is not immediately evident, that has happen in an individual's own mind and sometimes the individual is not even aware of such a process.

Remember when we are talking of *Chipembere* gardening project we are talking of poor rural women who are not even aware of the theory though it was explained but couldn't intellectually explain social learning beyond the basic knowledge. This positioned these research findings difficult to make real and strong claims for universal applicability but rather authentic and valid for this particular research context. Also considering that this research was informed by a case study approach hence, the reason I don't claim universalism of the findings and restricted my recommendations to possible transferability only to similar contexts.

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Appendix 1: Seeking permission from the Community leader (Headman)

Kwekwe environmental education programme (KEEP)

P. O. Box 1318

Kwekwe

01 August 2011

Kuna SaDunhu

Chekutanga ndinokukwazisayi murufaro. Chepiri Ini ndinoitwa VaMukwambo ndino sevenza kuWildlife Environment of Zimbabwe rinova ndiro bazi guru rinoona nezvkuchengetedzwa mhuka ne zviwanikwa zvose. Iri ndirozve ziMai remabazi makumi maviri ari muno muZimbabwe kusanganisira Sebakwe Conservation education centre ne Kwekwe environmental education programme arimuno mudunhu rekwekwe. Parizvino ndinosevenza ndiri kuKwekwe environmental education programme iri mudhorodha redu reKwekwe.

Chishuwo changu ndechekudzidza kubva kumadzimai eproject ye garden. Zvino ndaikumbirawo mvumo yekupinda mudhunhu renyu, uye kudidza kubva kumdzimai ava. Izvi zvinosanganisira kutora mifananidzo apo vanenge vachiita misangano yavo, vachiita basa ravo, vachizoita mabembero avo uye kukohwa nedzimwe nhambo pavanenge vachivhakachira nevamwewo vanoremekedzwa, vanenge vachiuya kuzoona project yenyu. Ndinokumbirawozve mvumo yekutaura navo uye kubvunza mibvunzo, zvichida kuva tapa manzwi neradio kana nhare mbozha. Izvi ndinotarisira kuzviita kubva muna nyamavhuvhu (august, 2011) kusvika gore rinouya 2012.

Zvandinenge ndawana mutsvagiridzo yangu zvichabatsira uye kushandiswa nevepa Sebakwe Centre kugadzira nzira dzekudzidzisa madzimai emaprojects zvakanaka uye zvakakwna mumavillage mamwewo. Uye ndichazvishandisawo pavhunzo dzangu dzekuchikoro nedzimwe nhambo ruzivo urwu rwungazoshandiswawo nevakuru-vakuru vedhunhu rino pakuronga mamwe maprojects anokurudzira shanduko mudhunhu redu uye kuchengetedzwa ziwanikwa zvedu. Ndinovimbisa kuti iyi tsvagiridzo haineyi nechekuita nezvematongerwe enyika uye haizi yezvematongerwe enyika. Zvichireva izvo kuti zvatingawana mutsvagiridzo yedu hazvipihwi chero munhu wese-wese asina mvumo inobva kwamuri uye kumadzimai ava. Nekudaro mvumo yacho inofanirwa kuve tsamba ine rutsigiro rwenyu SaDunhu uye rutsigiro rwaChairwoman weproject.

Ndine shuviro yekuti muchandipindurawo nekuchimbidza uye kuti muchandibvumidzawo.

Ndini wenyu

Mr. R. Mukwambo

0773 640 082

Appendix 2: Consent letter to the Gardeners

Kwekwe environmental education programme (KEEP)
P. O. Box 1318
Kwekwe

01 August 2011

Ku Madzimai eproject

Chekutanga ndinokukwazisayi murufaro. Chepiri Ini ndinoitwa VaMukwambo ndino sevenza kuWildlife Environment of Zimbabwe rinova ndiro bazi guru rinoona nezvkuchengetedzwa mhuka ne zviwanikwa zvose. Iri ndirozve ziMai remabazi makumi maviri ari muno muZimbabwe kusanganisira Sebakwe Conservation education centre ne Kwekwe environmental education programme arimuno mudunhu rekwekwe. Parizvino ndinosevenza ndiri kuKwekwe environmental education programme iri mudhorodha redu reKwekwe

Shuviro yangundeyekudzidza kubva kwamuri nzira dzmunodzidza nadzo uye zvamunoita kuti project yenyu ienderere mberi uye zvikonzero zvinokubatanidzayi seproject. Zvino ndaikumbirawo mvumo yekudidza kubva kwmuri. Izvi vinenge vichisangnisira kubvunza mibvunzo, kutora mifananidzo pamunenge muchiita musangano yenyu, muchiita basa renyu, pamunoita mabhmbero uye kukohwa zvichida dzimwe nhmbo pamunoshanyirwa nevanoremekedzwa.

Zvandinenge ndawana mutsvagiridzo yangu zvichabatsira uye kushandiswa nevepa Sebakwe Centre kugadzira nzira dzekudzidzisa madzimai emaprojects zvakanaka uye zvakakwna mumavillage mamwewo. Uye ndichazvishandisawo pavhunzo dzangu dzekuchikoro nedzimwe nhambo ruzivo urwu rwungazoshandiswawo nevakuru-vakuru vedhunhu rino pakuronga mamwe maprojects anokurudzira shanduko mudhunhu redu uye kuchengetedzwa ziwanikwa zvedu. Ndinovimbisa kuti iyi tsvagiridzo haineyi nechekuita nezvematongerwe enyika uye haizi yezvematongerwe enyika. Zvichireva izvo kuti zvatingawana mutsvagiridzo yedu hazvipihwi chero munhu wese-wese asina mvumo inobva kwamuri uye kumadzimai ava. Nekudaro mvumo yacho inofanirwa kuve tsamba ine rutsigiro rwaSaDunhu uye rutsigiro rwaChairwoman weproject.

Ndine shuviro yekuti muchandipindurawo nekuchimbidza uye kuti muchandibvumidzawo.

Ndini wenyu

Mr. R. Mukwambo

0773 640 082

Appendix 3 Signed Consent Letter

.wekwe environmental education programme (KEEP)

Kwekwe environmental education programme (KEEP)

P. O. Box 1318

Kwekwe

Date: 05/01/12

Chekutanga ndinokukwazisayi nemurufaro. Chepiri Ini ndinoitwa VaMukwambo ndino sevenza kuWildlife Environment of Zimbabwe rinova ndiro bazi guru rinoona nezvkuchengetedzwa kwemhuka ne zviwanikwa zvose. Iri ndirozve ziMai remabazi makumi maviri ari muno muZimbabwe kusanganisira Sebakwe Conservation education centre ne Kwekwe environmental education programme (KEEP) arimuno mudunhu rekwekwe. Parizvino ndinosevenza ndiri ku KEEP centre iri mudhorodha redu reKwekwe

Shuviro yangundeyekudzidza kubva kwamuri nzira dzamunodzidza nadzo uye zvamunoita kuti project yenyu ienderere mberi uye zvikonzero zvinokubatanidzayi seproject. Zvino ndinokumbirawo mvumo yekudzidza kubva kwamuri. Izvi zvinenge vichisangnisira kubvunza mibvunzo, kutora mifananidzo pamunenge muchiita musangano yenyu, muchiita basa renyu, pamunoita mhembero uye kukohwa zvichida dzimwe nhambo pamunoshanyirwa nevanoremekedzwa.

Zvandinenge ndawana mutsvagiridzo yangu zvichabatsira uye kushandiswa nevepa Sebakwe Centre kugadzira dzimwe nzira dzekudzidzisa madzimai emaprojects zvakanaka uye zvakakwana mumavillage mamwewo. Uye ndichazvishandisawo paproject yangu yekuchikoro nedzimwe nhambo ruzivo urwu rwungazoshandiswawo nevakuru-vakuru vedhunhu rino pakuronga mamwe maprojects anokurudzira shanduko mudhunhu redu uye kuchengetedzwa ziwanikwa zvedu. Ndinovimbisa kuti iyi tsvagiridzo haineyi nechekuita nezvematongerwe enyika uye haizi yezvematongerwe enyika. Zvichireva izvo kuti zvandingawana mutsvagiridzo iyi hazvipihwi chero munhu wese-wese asina mvumo inobva kwaSadunhu uye madzimai eproject. Nekuđaro mvumo yacho inofanirwa kuve tsamba ine rutsigiro rwaSaDunhu uye rutsigiro rwaChairwoman weproject.

Ndine shuviro yekuti muchandibvumidzawo kuenderera mberi ne tsvagiridzo yangu uye kuti muchandipawo rutsigiro nerubetsero kuti ndibudirire patsvagiridzo yangu. Ini ndinokuvimbisayi kuchengetedzwa kwetsvagiridzo iri uye handizonyori mazita chokwadi pamagwaro angu uye ndichashandisa mifananidzo yandinenge ndatora patsvagiridzo yangu kuchikoro chete. Munobvumirwa zvakare kubuda kana kupinda mutsvagiridzo iyi chero nguva yamunonzwa kuda, hapana anokusungirirayi kupinda mutsvagiridzo uye kutora chinzvimbo asi kuti chido chenyu chete.

Kana muchibvumirana uye muchindipa mbvumo pane zvandatsanangura ratidzayi nekunyora zita renyu pazasi uye signanture yenyu.

Zita ...R. Mukwambo.....

Signature .....R Mukwambo.....

Ndini wenyu

Mr. R. Mukwambo 0773 640 082

KWEKWE ENVIRONMENTAL EDUCATION PROGRAMME BOX 1318, KWEKWE DATE 05/01/12

National office

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Appendix 4

Document analysis

Type of document: **Chipembere garden Constitution**

Date acquired/accessed: **15 March 2012**

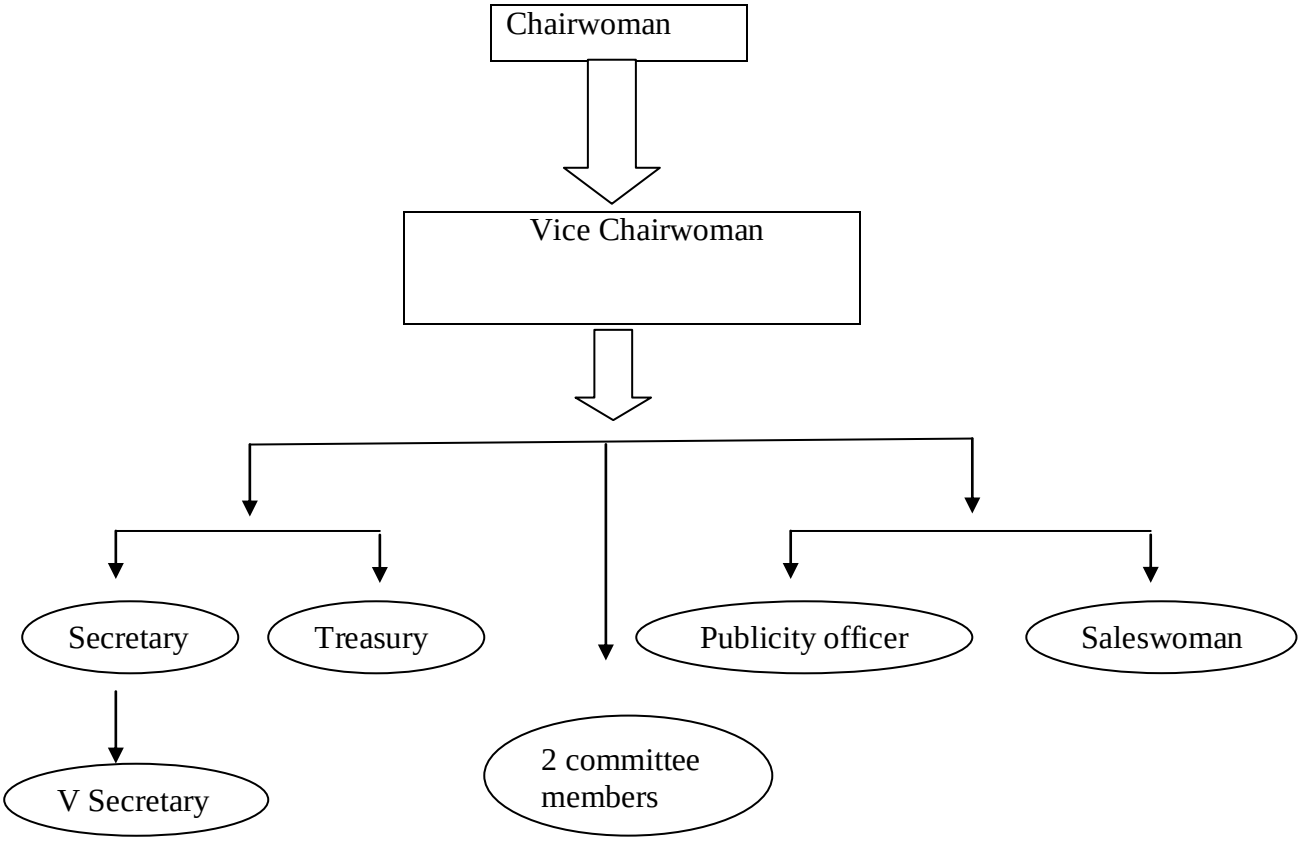
Code: **Doc GC**

Findings

Membership to the project

Membership was not a compulsory but a community appreciation and it was through community learning engagement processes facilitated by SCEC the community conservation leading organisation. There are 20 members to the project and all the members are representatives to the 20 households who make up Rockvale village 2 where the garden is located. So joining to the project was on a free basis and as a women's community project.

There is a distinctive power structure within the project and position holding is rotated annually among the project members:



However, it was interesting to note that the original members to the project were 20 but on my consent letter responses were 21 with 7 new members appearing on my anonymity and consent list whilst 6 members on the

original constitution list do not appear on my anonymity and consent list.

About the project

It was started on the 9th of June 2010, as a Sebakwe Conservation and Education Centre (SCEC) initiative after realising excessive deforestation in the area resulting from the traditional-individual gardening systems after the land redistribution process in Rockvale area. SCEC helped out with some barberwire to fence off the area and uniting the women into one project. SCEC also sold the idea of *tsotso* stoves (improved & efficient stoves) whereby the women were conscietised on deforestation and the need to conserve and later a community garden as a common solution to do away with the traditional individual gardening systems.

The practice

They usually meet as a project once a week on a Thursday for routines in the garden and sit a general meeting twice a month. Each member owns a role in the garden (2.5mx50m) and in these rows first 7 beds belong to the project. Therefore, these beds are cropped communally and time to plant as well as, the type of crop is agreed with the Extension officer. Watering is done on Monday, Wednesday and Saturdays from 6:00 am to 4:00pm whilst Thursday is reserved specifically for Extension officer interventions as well as special call for actions. However, despite all these important days to their practice they have also days set aside for guarding their crops from wild and domestic animals as well as from thieves. Therefore, garden members are grouped and put in a duty roaster which is rotational too. And to perpetrators to the constitution law, a three months notice is issued of which, if the individual does not change she will be expelled from the project and her row will be taken over as a community row. Harvesting and selling of crops is done with the knowledge or in the presents of other garden members.

It was also noted that among other benefits accrued project poultry project is one of such projects that sprinkled from the successes of this gardening project.

Chipembere project also receives and interact with other visiting organisations, colleges, universities. Among such groups are Midlands State University students who have visited twice in a role and Mulezu Agricultural college who visited on the 11th of September, 2011. Basically in these exchange visits they will be discussing better ways to farming and conserving the environment.

The End

Appendix 5. The new Chipembere Garden Constitution document (Doc GC)

Document coded; Doc GC

Chipembere women`s garden project

Muono wekusvika kupera kwegore ra 2015

- Kunofanira kuva nekubatana pakati pevanhu kadzi.
- Kuve nebukubudirira kwemagariro pakati pevanhu veboka pamwe nemhuri dzavo.
- Nhengo dzeboka dzinofanira kuwana mari kubva mubindu.
- Kunofanira kuva nebudiriro.
- Kunofanira kuva nehupfumi.

Bumiro remutemo

- Sezvataurwa nemusoro wenyaya, boka remadzimai rinofanira kuve wevakadzi chete.
- Kuti munhu abvumirwe kuva nhengo anofanira kuva nechoto chetsotso chakavakirirwa.
- Kuti munhu abvumirwe kuita nhengo anofanira kubadara mutero wekubatanidzwa nevamwe, mutero uyu unenge wakatarwa ukabvumirwana nenhengo dzebindu.
- Nhengo dzeboka remadzimai dzinofanira kuita misangano kaviri pamwedzi.
- Kunonoka kumusangano nechikamu chemaminitsi anokwana ivo kuita makumi matatu (30min) kana kudarika kunoita kuti nengo yanonoka ibhadhare mutero unokwana iwo kuita $1 pese paanononoka kumusanga.
- Boka rebindu richava nevatungamiriri pfumabwe. Ava vachasanganisira sachigaro, mutevedzeri wasachigaro, mabharani, mutevedzeri wamabharani, nemubati wehomwe, mupurisa nemutevedzeri wake, uye nevamiriri vevanhu vaviri.
- Bindu richadiridzirwa neMuvhuro, Chitatu nemuGovera kubva na 6 mangwanani kusvika na 4 masikati.
- Munhu haafanirwe kuenda kubindu ariega kunyangwe zuva risiri rakatarwa kuenda kubindu. Kana pachinge paine chikonzero chekuenda kubindu vamwe vasiko, munhu anofarwa kunotora mupurisa kana mumwe munhu weboka rechipembere.
- Vasingatevedzeri mitemo weboka vachapiwa yambiro yemwedzi mitatu mushure maizvozvo kana pasina shanduko pamaitiro avo nhengo idzi dzinoburitswa mubindu.
- Humbavha kana mhirizhonga mubindu zvinofanira kutaurirwa kune vamiriri vevhanhu.
- Nyaya dzese dzinezvekuita neboka remadzimai rebindu dzinofanira kukururururirwa ku bindu zvakadzama kwete kudzimba.
- Kana paine nhengo irikukundikana kurima mibheda yese kusvika kumapeto kwebindu, mibhedha isina kurimwa inokwanisa kuzopiwa dzimwe nhengo dzebindu dzinokwanisa

kuirima, asi kana pasina vanokwanisa kuirima, mibhedha iyi inokwanisa kuzopiwa vamwe vakadzi kubva kune mimwe misha zvichienderana nekugarisana kwavo nevamwe.

- Pakugoverwa kwemibhedha isina kurimwa, mukana wekuwana mibhedha iyi uchange uchitanga kupiwa nhengo dzemubindu vanoratidza shungu pamwechete nekutevedzera mitemo yese yemubindu.
- Nhengo dzese dzinofanira kushanda nomazvo uye nekuchengetedza hutsanana mubindu nguva dzose.
- Nhengo dzese dzinofanira kushanda pamwechete kuzadzikisa tarisiro inotarisira mubindu
- Vamiriri vevanhu vachasarudzwa gore rega rega.
- Kurovha misangano katatu kakatevedzana zvinoita kuti munhu aburitswe kuve nhengo yemubindu zvachose.
- Munhu anetsika yekurovha anobhadhara mutero unokwana iwo kuita $5 pese paanorovha. Munhu uyu anopiwa mazuva anokwana ivo kuita manomwe kuti abhadhare mutero iwoyu, asi kana aching atadza kubhadhara nemazuva aya, munhu uyu anopihwa mamwe mazuva manomwe okubhadhara, kana aching atadzazve kubhadhara nenguva iyi, mutero wake unobva wakwira kuenda pa$10.
- Nekubatikana pakurima munguva yezhizha, nhengo dzese dzino kurudzirwa kuti vasa rivare bindu. Zvakadaro nhengo dzese dzinofanira kuno shanda mubindu China chega chega.
- Chero zvazvo bindu rakagadzirirwa madzimai varume vanokwanisa kubatsira pakudiridzira,kudhiga chero pakugadzira waya sezvavakaita pakutangiswa bindu.
- Nengo dzeboka remadzimai hadzitenderwi kuyanika hembe pawaya yebindu.

MABASA EVATUNGAMIRIRI.

Sachigaro

- Sachigaro vanofanira kutungamirira misangano inenge ichiitwa
- Kudeedza nekuronga misangano
- Kunyora tsamba kune nhengo dzinenge dzatyora mutemo

Muteedzeri wasachigaro

- Muteedzeri achabatsira nokubata basa rasachigaro kana vachinge vasipo

Munyori

- Achanyora zvinenge zvataurwa pamisangano
- Kuverenga zvinenge zvakataurwa pamusangano wakapfuura.
- Achachengeta tsamba dzakakosha (bumbiro remutemo nemamwewo magwaro akakosha)

Mubati wehomwe

- Achachengeta mari.
- Achatora mari dzose dzerubatsiro rweboka odzichengeta.
- Achapa mari kuboka pogapoga painenge ichidiwa kushandiswa.

Mapurisa

- Kufambisa shoko maererano nemisangano.
- Kuperekedza vanoda kuenda kubindu panguva dzinofungidzirwa kuti kubindu kunenge kusina vanhu.

Vamiriri vevanhu

- Vanogona kungoita chero basa renengo dzevatungamiriri kana vachinge vasipo.

Appendix 6: Doc Fr1

FIELD WORK REPORT

Date : 19 August 2010

Place visited : Chipembere Women garden project in Rockvale

Participating Team : Shame, Sheron, Zibusiso, Samuel and Palloma

Objectives : To monitor the project and also for progress evaluation

Observation and proceedings:

We drove to Rockvale and collected the chipembere women and from there we went to the actual site to which the project is being carried out. At the garden we observed that some progress has been made as the women managed to gather droppers to fence the garden. Additionally some life has been identified as some of the already grown vegetables were showing up though some had signs of stunted growth. The vertiva grass showed signs of moisture deficit. Overall the team observed that it was evident that the problem was as a result of lack of consistence from project members. In some of the beds the ribbon was put to drive away birds.

After a moment of observations in the garden we had a meeting with the members and we attended to their problems, one major problem highlighted was that of problem animal i.e. the goats, hares and birds. The members also mentioned that they lack seeds but on this challenge some members observe this to be a problem of dependence syndrome since some of the project members strive to get their own seeds, however a promise was made to provide them with some of those seeds by the participating team. The project members also asked for permission to cut down some thorny shrubs to fence the garden, but since that was contradicting with sustainable development goals an alternative was suggested for them and obviously that was to water the vertiva grass. After all, we had good time helping them to water the thirsty vertiva grass and again to our observation that was quite a great motivational aid for them to continue doing the good work.

Conclusion:

Our visit to the site was of great importance because we managed to have visual assessment of the progress of the project.

Recommendations:

- Constant monitoring of the project is needed at least once or twice a week.
- Efforts should be put so that everyone plays a role in the continual survival of the project.
- To guard against problem animals there is need to gather more droppers and continual use of the ribbons for birds
- There is also need for timeous watering of the vertiva grass

Compiled by Sigauke Samuel

Appendix 7: Doc Fr2

DATE: 13 January 2011

Place: Rockvale Garden project.

Participating team: Samuel, Mr Dongo, Sithokozile.

Objectives: To assess progress being made in the garden.

Proceedings: We went for a meeting at Gutsaruzhinji secondary school in the company of Mr Dongo.After some few hours of discussion on the future of the building of the school. We then proceeded to Rockvale garden where we meet a couple of women patiently waiting for our arrival. The women at the garden are working hard .This has been observed through more vegetables such as covo, sweetcabbage, tomatoes, ocra, onions and butternuts which were in the garden. This progress may have been caused by our last visit which could have instilled morale to them. Also it can be due to an increase in the water content of the dam. However, some of their vegetables were not weeded, which led to competition for nutrients and sunlight.

Observations: In the garden we observed that some of the members were being reluctant. This has been witnessed through abundance of weeds in the vegetable beds, showing that even when the rain supplements their irrigation water they can not have time to weed their crops. The team also observed that there is now surplus vegetable in the garden which needs them to sell some.

Recommendations:

- We recommended that there is need for continuous monitoring of their crops.
- More vertiva grass to be planted so as to prevent some troublesome species from reaping their produce.
- For easy marketing of their vegetables, the project members were advised to combine their produce with Mr Muyambi who is also a local farmer but with readily available market for his vegetables.
- On failure to get market for their produce .farmers were also advised to dry some of their vegetables in preparation for the next season.

COMPILED BY SAMUEL SIGAUKE

Appendix 8 OB1

Participant observation Report OB1

Date: **26/08/11**

Venue: *Chipembere* garden

Code: **OB1**

Title: **Starting a garden**

Project's background

Chipembere gardening project is a communal owned project founded and funded by Sebakwe Conservation and Education Centre (SCEC). The main objective of the project was to enhance environmental education and sustenance through gardening. The project is made of 20 women in Rockvale village 1, in the Midlands province of Zimbabwe. It's a mainly subsistence project aimed at alleviating poverty, improving local livelihoods at the same time promoting environmental education through conservation and sustainable utilisation of resources such as wildlife and woodlots.

Workshop details

This was one of the Chipembere women's workshops in which we were invited to and provided an excellent opportunity for my first participant observation process. The workshop was called for, by the Chairwoman of the project after they have received some garden inputs which consists mainly some vegetable seedlings. She invited the AREX officer (EO) to come and facilitate a nursing lesson for them. As usual we took this opportunity to join in as part of our project monitoring process as SCEC and this was a golden opportunity for a participant observation. This participant observation was presented as a report and coded **OB1**

OB1 report

The event was officially opened by a prayer from a volunteer P16. In her prayer she emphasised on unity among the project members, progress and a common goal in oneness as well as a health learning environment. She prayed for blessing of their lesson, their crops as well as to the cheerful givers (SCEC) and for their efforts towards embitterment of their community. Lastly she surrendered the workshop into the hands of the almighty to take control and enable them to understand what they were going to be taught and to see the project progressing.

Pc1 took over and welcomed all the visitors to the project whom were the AREX Officer (EO), myself, PO1. She proceeded with a slogan *"madzimai! pamberi nekubatana, pamberi nekuzvishandira pamwe, pamberi nekukurudzira munhu kadzi, pamberi nekudyara uye kudzidza pamwe*" (ladies forward! forward in unity, working together and teamwork, forward with women appraisal, forward with sowing and learning together) and the reset of the members chanted "*pamberi hatidi nyope, pasi nevanoda kudya varere, pasi ne vane shanje, pasi ne vasingadi kudzidza isu matura fasha fasha*" (forward! Forward with working together, we don't like lazy people who want to be fed whilst sleeping, people who are jealous, people who are not eager to learn. Lets us our hands and our granaries will flourish).

The chants were silenced by the Pc1 who later introduced us (including all gardening members) to the workshop objectives which were:

a) Learn how to do a vegetable nursery
b) Put in place a watering duty roaster
c) Put in place a guarding duty roaster

Pc1 handed over the time to the extension officer (EO) who started by greeting the members once again. She introduced the members to the donated seedling types and recommendations for companion since there were some onions, peas and various vegetables in the garden (Pic 1, Pic 2). EO continued by teaching them on the appropriate soil type, conditions for a successful or 100% seed generation rate. Whilst EO was explaining participants became curious and started to inspect their reserved nursing beds in their respective rows and P6, P8, P12, P14, P18 were predominant of this action. However, EO went on explaining the importance to considering seed/plant companion when nursing seedlings (Pic 3).

EO went through all the prepared nursery beds inspecting for the requirements she taught them, but what was mostly exciting was the way she would ask the owners of the appropriateness of their beds to the type of the seedlings to be nursed. In Pic4, P14 is explaining on how her nursing bed is appropriate for onion seedling nursery whilst others are listening. She explained, "aah *vasikana ivhu riri mu row yangu ndiro vhudema rakaregedzana, uye paside pe bed iyoyi pane lettuce isinga kanganiswi nemaonions. Saka ini ndingada zvangu kupadyara maonion sezvo asinga dyiwi ne zvitota uye kudaidza zvitota. Plus anozotodzinga mapests akawanda ku lettuce ne peas dziripadhuze*" (my row has the rich humus soil which is loose and with appropriate nutrients and because of the need for a right vegetable companionship I would rather sow onion seedlings. Furthermore, onions are pest resistan
ce and will as well deter pests from other plants nearby, such as lettuce and peas).

However, what was most stunning about this teaching method was that it also provided immediate evaluation criteria to asses whether the lesson was understood and people are knowledgeable of the concepts rather than the action.

Extension officer progressed by teaching how to nurse by demonstrating, she then instructed all garden members to join and assist the owners of the 10 selected nursing beds. Working together as a team marked the nursing process. The process was characterised by a distinctive division of labour whereby other members were sowing, fetching water and the young watching carefully (ref to Pic 5) whilst the extension officer was patrolling inspecting the nursing process (ref: Pic 7).

What was also most interest in the role sharing process was that, it was not coordinated yet very uniform. The most experienced members took the most cautious roles in the process. For instance, watering a nursery bed is very critical in horticulture since this will determine your germination rate which will automatically calculate to your productivity and work plan. And in Pic 6 is evidence of such division of labour where seniority plays part. Pic 7 is evident to Pnov 6, who is constitutionally not an active member to the project but is a relative of P5 but

has just come to help out. However, the interesting part is P5 sow the nursery whilst Pnov6 fetched water to water the nursed bed and she was also present when members were taught the proper way to water instead she would drop off the watering cans full of water and watch carefully whilst P5 is watering the nursed bed (ref Pic 6) and Pnov6 would carry the empted containers back to the dam to fetch more water.

One interesting scenario is when the extension officer called for one grouping and explained to the rest of the project members the importance of mulching, but she never demonstrated to the group (Pic 8; Pic 9). She instructed the group to mulch their nursery before departing. However, P12 wanted to mulch with the Wild oats (*Avena fatua*) plant, which is invasive specie and can be poisonous. And this took the intelligence of P14 who screamed, "*aah-aah vasikana chiruva ichocho hachiiti. Tarisayi muone chine mhodzi dzirikutodona and chiri poisonous. Mukachisa pamulch chinodonhedzera mhodzi dzacho munursery and dzinobuda dzikauraya matomatoes ese. Chito chirasirayi kure uko*" (please! Please! don't use this plant its poisnous and invasive it can destroy all the tomato seedlings when they germinate. Please through it out of the garden) however, initially P12 remained calm when P14 screamed and she never thought she was the one screamed at until P14 mentioned about the plant and explain that's when she only realised it and took the plant off the garden and was later burnt after the session (Pic 10).

To me this required more investigation onto the matter since I never thought likewise too. So with the help of my assistant observer PO1 who later interrogated her knowledge, she stressed her farming experience and knowledge from the nearby farm where they were employed and resided before relocating to Rockvale village 1.

PO1 had a small interrogative interview with her just after the scene where he asked her the following:

PO1: *ndaona mashushikana chaizvo, P12 paaida kusevenzesa chisora chiya, chii changa chanyanyonetsa*? (I noticed how much you were frustrated when P12 wanted to use that plant, what was the matter?)

P14: *nhai imi mai vose vakuru kudayi vasingazivi kuti sora iri rinouraya shuwa. Vaida kurisevenzesa iro raito zhuwika mhodzi nhayi* (can you imagine a grown up woman wanting to use that poisonous plant which was even exploding its seeds everywhere).

PO1: *saka makazviwanepi zvose zvamaitaura pamusoro pechimuti ichi?* (So tell me where did You got all that information?)

P14: *tichikura taingozvidzidiswa, kunyangwe kumombe watadza kurisa vakuru vaikusundidzira machiri ende chikakubaya chinovava. Plus ku purazi kwataigara nekushanda Bob Swift anga asingadi kuchiona mumunda zvekuti maitosvuurwa chaizvo.* (I learnt it when we were grew up our elders always told us about it and even when we were herding cattle if you make mistakes they would through you into the plant and its very sore. Furthermore, where we used to stay and work at Bemthree farm, Bob Swift would scream at anyone if he finds this plant in his farm or near his farm).

Verification of these claims was very important so I quickly interrogate the extension officer:

R: *nhayi officer ishuwa here irikutaurwa*? (Officer is this true?)

EO: *aaah handizivi handina kubvira ndasangana neinformation yakadaro ande ndinongoziva kuchiona but handisivi about zvepoison.* (I don't know much about this plant and I haven't met such information but what I just recall is seeing the plant).

So I did a further research where I found that indeed the plant is poisonous and invasive and the common name is Wild oats and the scientific *Avena fatua* (EMA pamphlet).

Like mentioned above role sharing and duty roaster were the last things to be done. The process was headed by the committee members but P14 taking the leading role (Pic 10 & 11). The initial agreed roaster structure was that two people will come to water all the ten nursed beds and the shift takes on. One noticeable suggestion or contribution was from P7 who articulated that, "itayi muchiziva kuti hatisi tose tinogona kushandidzana. Zviri nani mukati munhu atsare munhu waakasununguka kushandidzana naye" (remember we are not all eaqually friends its better if we suggest each person to choose a person whom she is free and would want to convene the duty with). And an equally important and conflicting idea came from P4 who retaliate that," aaah haasi munhu wese anoda kubatirwa mu row yake. Zvirinani mukati munhu wega wega azvidiridzire murow yake kana ma seeds aita ozoshaiwa" (its not everyone who would want anyone to just come and start in her garden row , its better if we say each person will water the nursed bed in her row together with her other row beds and when the seedlings are old enough for transplantation they will be shared to every one). However, this suggestion didn't go very well and people started to think otherwise and P14 together with P8 broke the deadlock by suggesting, "ok ngatinzwe kune vane muhomba yadyarwa yacho kuti vanoda here?" (lets hear if the row owners are willing to take care of the nursed beds) but the rest of the members mumbled that, "ko vakasazo dhiridza zvinhu zvotsvira mahara hazviiti ngatingoita seproject" (what if they don't water what will happen to all our efforts we should continue as a team). And eventually with the help of the extension officer they resorted to choosing people they are willing to work with and this makes it a communal project.

Pc1 invited P16 to close the session with a prayer. Afterwards the workshop was called officially over and we later joined for the small lunch prepared by the garden site. We all rejoiced together and departed.

Pic 1; introduction to donated seedlings

Pic 2: a brief explanation on proper seedling nursery

Pic 3; A brief explanation to plant companion by EO whilst the rest of the participants are listening tentatively

Pic 4; P14 is explaining why she chose onion seed for her bed

Pic 5: P12 is sowing tomato seedlings whilst P14 is delegating others to fetch mulching grass whilst she is going to fetch water.

Pic 6: Pnov6 is watching carefully whilst P5 is watering the nursed spinach bed.

Pic 7: EO is having a word with P8, whilsr P7 is watching matters of concern raised by EO and Pnov6 is ferrying water to an already nursed bed.

Pic 8: EO is explaining the importance of mulching to the rest of the

Pic 9: EO is teaching the importance of mulching whilst my assistant observer (PO1) is taking some notes

Pic 10: P14 is instructing P12 to throw away the poisonous plant out of the garden which she intended to use for mulching

Appendix 9: OB2

Participant observation Report OB2

Date: **01/11/11**

Venue: Chipembere garden

Code: **OB2**

Title: **Pest invarsion workshop**

Workshop background

This workshop was called for, by the Chipembere gardening committee after realising a devastating threat to their vegetable plants and progress as a project. Their main threat to their practice was pests' invasions and the most devastating invasion being from the cabbage worm. The cabbage worm would feed on the inner part which is also the heart of their sweet cabbage and this will result to the death of the plant. Therefore, as a committee they invited us to assess the damage as well as to help them think through more environmentally conscious and biological ways to control these pests. And as usual we brought with us the Extension officer who was to investigate on the pests' type and teach them on biological as well as more sustainable ways to control these pests. However, I took this opportunity to investigate on the women's knowledge, social learning processes and response to threats to their practices. And I did this inform of a participant observation (OB2) with the help of one assistant (PO3) from SCEC.

OB2 report

Pc1 addressed the congregation of almost close to full participants to the garden though some were novices standing in place of their parents and mother in laws. Pc1 welcomed all visitors and she introduction the present garden committee members. And I also introduced the people who accompanied me to the event among them were the extension officer, a SCEC interim who was also my assistant observer, the SCEC driver and one member from Pauldale village. After the introductions Pc1 took lead of the workshop proceedings. She reminded us once again to the cause of our gathering despite the fact that it was a Thursday, which is their normal weekly meeting day. After the reminder she called for any volunteer to lead by a word of prayer before the workshop proceedings. P10 volunteered to give a word of prayer and in her prayer she asked for spiritual guidance towards their intended task and cooperation among the team members (Ref: Pic1). She also mentioned ability to understand and put into practice whatever, they were going to learn.

Pic1: P10 in the middle of the circle giving a word of prayer to officially open the meeting whilst other members bowed down.

After which Pc1 She proceeded with a slogan *"pamberi nekubatana madzimai! pamberi nekushandira pamwe, pamberi nekukurudzira munhu kadzi, pamberi nekudyara uye kudzidza pamwe*" (ladies forward! forward in unity, working together and teamwork, forward with women appraisal, forward with sowing and learning together) and the reset of the members chanted "*pamberi hatidi nyope, pasi nevanoda kudya varere, pasi ne vane shanje, pasi ne vasingadi kudzidza isu matura fasha fasha*" (forward! Forward with working together, we don't like lazy people who want to be fed whilst sleeping, people who are jealous, people who are not eager to learn. Lets us our hands and our granaries will flourish).

When they finished their exact slogan they usually chant before processions, Pc1 officially handed over the baton to the Extension officer (EO). However, EO started by greeting the members once again and gave a general lecture on pests, signs and symptoms of diverse pests and the ultimate signs that can be observed from the plant (Ref: Pic2 & Pic3).

Pic2: EO giving a general lecture on pests in the garden

Pic3: EO giving lecture whilst all members are tentatively listening

Whilst, she was giving a lecture P12 was busy taking notes (Ref: Pic4). PO3 later reported that, "he investigated on why P12 of all the people was interested in the notes since the rest were just listening and she reported that it was her duty to do so as the projects' secretary".

Pic4: P12 taking some notes when the EO was giving a brief lecture on pests in the garden, whilst other members including children were listening very carefully to the lecture.

EO instructed: *veduwe munhu nemunhu parow yake wotarisa kuti hapana here tuzvimbuyu pamuriwo wenyu. Tarisayi bed by bed nekuti mapests anodya matomatoes akasiyana ne anodya macabbage*. (Everyone go to your

garden row and inspect for presence of any insects bed by bed, remember different pests feed on different vegetable plants.)

People scattered around investigating on the detrimental pests that has caused panic in their midst and destruction on their plants. Whilst the people were investigating they were trying to pick up the pests they identified and present them and the EO was moving around assisting them on how to look for the pests.

I took this opportunity to visit Pvc1's row and open a discussion on the whole process.

R: *ko zviri kuita here mhamha*? (Is it working?)

Pvc1: *haa zvirikuita. Takatombozviona zvimbuyu zvacho ndosaka takakusheedzayi. Anditi murikuona kudyiwa dyiwa kwakaitwa muriwo wangu uyu*. (Yes its working. We used to see these pests and that's the reason why we called you. But can you see how the pests were feeding on my vegetables.)

R: *ndomuriwo rudziyi uyu*. (What type of vegetables are these?)

Pvc1: *icabbage, ende inodererwa kubva yasara mapuri puri so*. (Ref: Pic5) (Its sweet cabbage, its very susceptible to pests you can tell by the wholes on the leaves. Ref: Pic5)

Pic5: destroyed cabbage plants.

R: *manje munoona seyi kuti chiyi chakadya*? (So how do you identify the pests?)

Pvc1: *aaah hazvinetsi kuona unotarisa pasi muvhu especially kana kwavakudziya saizvozvi kana kutarisa pasi pemashizha*. (aaah its not a big trouble to identify them you just look on the soil especially when its now warm like this or you look underneath the leaves.)

P6: *eeehe pasi pemashizha kunyanya tarisayi pangu muone*. (Yes, underneath the leaves, come and see.)

R: *saka torayika sample tinoratidza mudhumeni*. (So take the samples and we can show them to the extension officer.)

P12: *regayi ndikupeyi pepa muise ipapo*. (Let me give you a paper so that you can put the samples on the paper.)

By the time I lifted my head I saw we were already a small group of 6 people and there were other 2 small groups like this one other corners as well. We collected the pest to the EO (Ref: Pic6) and compared with other samples from else where.

Pic6: pests (cabbage worm) gathered on the investigation session

However, the EO recalled all the people to form one gathering again. She asked: "*ko maoneyi*?

P13: *taona makonye egreen pasi pemashizha emuriwo*.(We have seen green caterpillars underneath vegetable leaves.)

EO: *muriwo rudzwayi*? (What type of vegetables?)

P14: *kunyanyanya pa sweet cabbage*. (Especially sweet cabbage.)

EO: *anditi tazvionera togaka zvandamboreva nguva dziya saka gonye redu rinonzi chii?* (Now we have seen for our self what I have told you earlier on. So what is the name of this caterpillar?

P6: *ndo cabbage worm here?* (Is it Cabbage worm?)

EO: *Neyi mati cabbage worm*? (Why did you say cabbage worm?)

P6: *because rinodya sweet cabbage plus futi tariwana muma cabbage chete*. (Because it feeds on cabbage plus we have found it in the cabbage plant.)

EO: *good ndochayizvo chayizvo. Ko zvimwe zvamawana*? (Good, that's correct.)

Pc1: *hatina kumboona zvakawanda isu kunze kwekuti tinoziva kuti nemhashu dzinombouya dzichidyawo but dzinonetsa kuona kana kwopisa kudayi nekuti dzinobhururuka*. (We did not see many pests besides that we know that there are also some grasshoppers which usually come and invade/destroy our crops but its difficult to see them on a hot or warm day like this, they fly away.)

P5: *plus futi chimbuya mugogoda chinombofamba chaizvo*. (Plus the praying mantis)

EO: *mbuya mugogoda ndochii?* (What is it?)

PO3: Praying mantis

EO: *inodya muriwo here*? (Does it feed on vegetables?)

P5: *ehe vamwe nanoti kana ikangoruma pashizha shizha racho rinooma rese vamwe vanoti mate acho akaipa asi hachidyi muriwo aah hameno*. (Yes, some people say if it bites on the vegetable leaves the whole plant will die and some people say its saliva is poisonous but it does not feed on vegetables, aah I don't know.)

EO: *ok, makaudzwa zvakawanda muchikura anditi saka chokwadi ndechekuti kudii*? (Ok, you were told a lot of things about it, so what is the truth?

P14: *ini ndinoona sekuti haadyi muriwo asikuti aonovhima zvimbuyu mumuriwo ndosaka iwo aine colour yegreen kuti asakurumidza aonekwa nezvitota nekuti zvinotiza*. (I think it does not feed on the crops but it hunts for pests camouflaging with the green leaves that's the reason why they are green in colour.)

Pvc1: *ini kuworkshop yandakamboenda takadzidziswa kuti hazvidyi muriwo asikuti zvinotobatsira kudzivirira muriwo kubva kuzvimbuyu*. (From the workshop I attended we were taught that they don't feed on crops but they also help to protect our crops from pests.)

EO: *ndizvozvo chaizvo zvamareva. Mukatozviona zvakawanda mugarden motofara ndiyo one yemuenzaniso weatinoti mabiological control measures zvichisanganisira shiri dzesango nemalady birds anditi tinomaziva tese*? (You have said it true. You have seen a lot in your garden and its one of the biological control measure including birds and ladybirds, I guess you all know them.)

Pnov15: *ladybird ndochii*? (What is a ladybird?)

P13; *twakaita setunkoko asi tuchibhururuka tuine macolours akanaka pamapapiro atwo. Tumwe tune madots but twakangoita setuma beetles*. (organisms like small bettles but they can fly and they have a beautifully coloured coats on their wings.)

P6: ok *ndabva ndatuziva ndakatombotuona mugarden munomu*. (Ok now I remember, I have seen them before in this garden.)

EO: *ok maculprits taaona saka toita seyi kuparadza mapests aya*. (So our culprits we now know them so what can we do to get rid of them?)

P5: *ndosaka takusheedzayika mudumeni kuti mutibatsire nekutaura kuti mushonga rudzwayi unodiwa kuuraya zvimbuyu izvi*. (That's the reason why we have called you, its for you to help us with the proper and efficient pesticide to destroy these pests.)

All the members showed consensus in what P5 had proposed and that is the main reason they have called for the meeting for the Extension officer to investigate on the real pests and prescribe the best terminating poison or agent. However, I don't know why maybe it was because of our presents or what the EO chose a different avenue despite of what majority was expecting. EO asked a question:

EO: *mambotaura nezvemhashu dzinobhururuka dzichitiza kana dzapedza kudya ko kana dzikazodyiwawo neshiri idzo dzabva kudya muriwo une mushonga chii chinozoitika kushiri*? (earlier on you mentioned about grasshoppers which usually fly away after feeding on your vegetables so what will happen if they are eaten by birds when the grasshoppers have fed on your poisoned crops?)

Pc1: *aah pamwe shiri dzinozofawo*. (Aah sometimes the birds will die.)

EO: *saka mazviona here kuti machemicals akanaka asi akashata nekuti munopedzisira mouraya neshiri dzirikuzvifambira hadzo ende dzichitoda kukubatsirayi kutapudza mapests. So ndedzipi nzira dzatingasevenzesa dziri nani and remember tinoda kuchengetedza zviwanikwa*. (Now you see this is why chemicals are good and bad because they destroy non target organisms like birds yet these birds can help us to control pests. So what are the other better ways which we can employ? and remember we want to conserve our natural resources.)

P5: *kuchengetedza zviwanikwa ndiko zvako asi muriwo uchipera here veduwe tozoti takafireyi*? (Conserving whilst our crops are destroyed, hey come on guys what would we have worked for?)

Pvc1: *zvataurwa na officer ndinowirirana nazvo, isu tikasasevenzesa machemicals even shiri nezvimalady birds zvamborehwa zvinotambira mugarden medu steriki ende hatizomboiti dambudziko. Plus futi kuworkshop imwe yandakamboenda takadzidziswa kuti kune maherbs anokwanisa kusevenzeswa kutreater mapests asinga urayi zvimwe zviwanikwa.*(I totally agree with what the EO has said, remember if we stop using chemicals even the birds, ladybirds they will come into our garden a lot and our pest problem will be over. Plus in one of the workshop I attended we were taught that there are some herbs which can be used to treat pests without destroying non targeted organisms.)

Pc1: *Ruzivo moto: madzimai* . (Knowledge! women?)

All: *rinogokwa* (Is extracted)

EO: *ok. Tinoziva vabereki pose apa taingodyara sevanhu vachiri kutanga asi iyezvino 3 yrs munoti kutamba here? Tavakuda kuita proper conservation agriculture ndiko kurima musingaparadzi zviwanikwa anditi? Saka taita rombo rakanaka nekuti tinevekuCentre varipano vanotibatsirawo nenzira dzakawanda dzisinga paradzi zvimwe zviwanikwa. Over to you vekuCentre*. (Ok. People we understand all along we were practising as learners but now we have 3years do you think it's a joke? We now want to do proper conservation agriculture that's cropping without destruction. So we are luck because we

have visitors from the Centre and they will help us with more sustainable practising methods we can use without destruction. Over to you guest from the Centre.)

PO3: *maita basa. Isu tinoda kuti tidzidze tose, imi pachenyu ndedzipi dzimwe nzira dzamunoziva dzatingakwanisa kusevenzesa*? (Thank you very much, we would want everyone here to learn from each other so what better sustainable ways we can use?)

P14: *iwo maherbs amborehwa ka aya*. (Herbs that have been mentioned earlier.)

Pc1: *pamusoroyi pane nzira dzakawanda dzimwe dzaisevenzeswa ne madzibaba edu: 1. tinokwanisa kusevenzesa madota endove kwozoti emuti unonzi chii?... unonzi muhwete nemukamba. Munotora mabranches acho one maleaves acho mopisa pamarasha then mozotora madota acho moisa mumatomatoes, kana covo chaiyo nhata dzinotiza*. (Excuse me, there are a lot of methods some we have learnt from our forefathers: 1. we can use ashes from cow dung or this tree what is its name again?… ok *Muhwete* and Pod Mahogany. You take the branches and the leaves then you burn them on charcoal then take the ashes and apply in tomatoes or even covo to deter lice.)

P13: *plus futi tichikura taisevenzesa surf kugeza muriwo zvingaita sekunetsa kana wakanda asi zvaitobatsira*. (Plus when we were growing up we used surf to wash the leaves and it was so easy but it could be troublesome if the crops are too many but it helped.)

P14: *kwete surf chete kana green bar chairo rinoshanda*. (Not surf alone even green bar can work)

P6: *hoo saka tainetseka zvedu imi muchiziva*? (So you knew all this all along whilst we were in a crisis.)

Pc1: *aaa kuziva kunosiyana ka vasikana pamwe taitokanganisa regai tinzwe kune vanoruzivo rwakawanda.*(Aaa knowledge is different you never know maybe sometimes we were wrong lets hear from the expertise.)

PO3: *hapana anonzi anoziva nekuti imi matondiudza zvandanga ndisingazivi, ndosaka ndati ngatidzidzeyi tose kubva kwamuri mose. Anyway, pakuwedzera panzira dzamataura tingangowedzera shoma nane dzamakadzidziswa na vamudorman including crop rotatation yekuchinjanisa mbeu dzenyu mugarden. Tinoiziva tose here*? (No one is an expert because today you have taught me a lot I didn't knew that's the reason I wanted to learn from you guys. Anyway, I will just add on a few methods from what you have already mentioned. I will just include some of the methods you were taught by the EO such as crop rotation and intercropping in our garden. Are we familiar with them?)

Pnov2: *aah izvo vakatidzidzisawo izvo tavakuzviziva*. (Aah we know those ones we were taught and now we know them.)

PO3: *2. tine nyaya yambotaurwa nezvayo yemaherbs. Tine maherbs akawanda anokwanisa kusevenzeswa kudzivirira muriwo wedu kubva kuzvimbuyu. Advantage ine maherbs haaurayi mapests but anodzinga kubudikidza nemunhuhwi waanoburitsa, pamwewo anotibatsira nekusheedza mainsects akaita senyuchi uye mabutterflies anobatsira papollination. Saka tine ma herbs akaita seRosemary, Garlic chives, lemon ginger, lemon balm nemamwewo anokwanisa kutibatsira mugarden medu. Asi zvingatinetsa kuti*

tikudzidziseyi nezvawo vamwe venyu hameno kana muchitombomaziva. Munomaziva here? (2. we once mentioned the herb story. We have a lot of herbs which can be used to deter pests from our crops. The advantage of using herbs is that it deters pests because of their scent and there are some which can attract insects such as bees, butterflies which are very useful in aiding pollination. So we have herbs such as Rosemary, Garlic chives, Lemon ginger, Lemon balm and others which can be helpful in our garden. But it can trouble us if we try to teach you of the herbs because I don't even know if some of you have seen them before. Do you know them?)

P5: *haaa sure ipapo mareva mukoma vamwe vedu hatisati tambomaona tiinongonzwa nezvawo*. (haa you have said it correctly, some of us we haven't seen them but we just heard about them.)

PO3: *saka toiata seyi manje*? (So what can we do?)

Pc1: *handizivi kuti munokwanisa kuti tsvagirawo here*? (I don't know can you provide us with them.)

PO3: *iro harizi dambudziko maherbs tianawo akawanda chaizvo chamunoda kungoita kutiudza kuti touya nawo riini uye kuti promiser kuti munomachengetedza kwete kuzorega achitsva nezuva musingadiridzi*. (Its not a problem, we have a lot of herbs what you simply need to do is to tell us when we are suppose to bring them and to promise us that you will keep them nicely not to leave them to dry up.)

P14: *zvanga zvakadii kuti isu tozokupayi date ratinoona kuti tinenge tiripo tese uye imi motouya makagadzirira kutidzidzisa uye kudyara musi iwowo. Kana tichizoda mamwe malessons tozoita zvekuya kucentre ikoko kwaakazara, tombobvawo pamba hazvisizvo here madzimai*. (So what if we organise and give you a date when we will be all members around and you come and give us some lessons on how to transplant on that day. Or if we want more lessons we will let you know and we can come to the Centre so that we can also have a day outing, Isn't it ladies.)

And all they agreed to the plan. PO3 handed back time to the EO who later asks if there were any questions. And we hoped silence meant understood. EO reintroduced the AREX livestock specialist/officer to the group. He also took the opportunity to spread on livestock dip dates to the group and other important information. Pc1 took over and called for the volunteer who opened with a prayer to come and close the session with a prayer again. Afterwards the women chanted their slogan as we were led outside the garden where we were treated with a special traditional dish.

The End

Appendix 10 OB3

Participant Observation three OB3

Chipembere gardening Project

Date: 29 March 2012

Title: Incorporating herbs into your garden

Participants' composition

5 senior participants	including chairwoman and vice chair
3 novices	standing in for absent participants
4 children	in care of their parents
2 participant photographers	(SCEC and KEEP)
2 assistant participants observers	(SCEC)

Material used

2 digital cameras Herbs to transplant Note books Participants

Procedure

A volunteer from the group **P11** gave an opening prayer. In her prayer she prayed for progress, success in their activities, proper learning opportunities, understanding among themselves and oneness.

Pc1 welcomed the project's members and all the visiting personals in this case who were my assistants from my organisation (KEEP), the founder and funding organisation (SCEC). The **Pc1** introduced everyone to that day's activity incorporating herbal gardening to their vegetable farming and acknowledged the absence of other senior project's members who committed themselves to the piggery and communal road project and later she officially launched the herbal propagation process to start.

Pic 1 (shows the welcome remarks and introduction to the day's task) these were some of the members present whilst the observer is watching.

Division of labour and role sharing evidences

During the process **Pc1** led in most of the activities but with constant consultations with **Pvc1**. She instructed **Pnov2** to construct a nursing bed for herbal propagation whilst **Pnov1, Pnov3** were send to fetch water from the nearby (50m away) dam for watering the herbs after the propagation process and the rest of the women took part in the propagation of the herbs as shown in pic 1 and 2. However, after realising such a division of labour and role sharing **PO2** joined the watering team. **PO2** interrogated the team when doing their task and later reported that, according to the team, "role sharing or tasks are usually given according to seniority, experience and nature of the task". In this case the selected (**Pnov1 &Pnov3**) emphasised that their selection for the task was on based on seniority since they were the younger and novices who just came to stand in their absent parents' positions and nature of the task and in this case water is head ferried to the garden which might be a tough & strenuous task to the present elderly women in the group.

Pic 2 and 3 show division of labour and it is evidence to one of the member appointed for watering task carrying a bucket starring at the rest of the group who were up to herbal propagation task

Pic 2 **Pic 3**

Evidences of social learning opportunities

Incident 1

Pnov2 who was ordered to prepare the nursery bed asked a crucial question to the group, "*nhayi vasikana, ko ari kudyarwa seyi uye papi*?" (How are they going to be planted and where?)

This question brought a moment of confusion into the group and raised mixed responses among the members. For instance, **P7**, *"...ende ndiani anozomachengetedza*?" (who will take care?) **P12**, *"eehe ngationesane vasikana, anombosheyiwa sei maherbs acho nekuti munmwe nemumwe anoda every type murow yake*" (How are we going to share them amongst ourselves?) and **P10**, conclusively advised the group, "*ehe ishuwa iyoyo vasikana nekuti hapana asingamadiwo, munhu wese anotodawo matypes ese emaherbs mumuhomba wake. Saka toita seyi*?" (I agree remember everyone wants all herbal species in her role so how are we going to do it?"

Because of this development 2 small informal groupings quickly formed one made up of 5 senior members including leaders of the project (ref **Pic 4**), whilst the other group off the photograph was comprised of the 5 young women including an assistant observer. And in **Pic 4** the assistant participant observer is watching at the developments.

Pic 4

After some 3 minutes they rejoined as one meeting and **Pc1** took over their agreed solution and consulted with me. In her consultation she reiterate that, "*Va Mukwambo tinokumbirawo kuti mutibatsirewo kupedza gakava riri pano. Ndimi mauya nemaherbs acho saka mungatonyanyoziva kuti anoda kudyarwa seyi?*" (Mr. Mukwambo can you please help us out, how best can we solve this challenge since you are knowledgeable of the number of herbal species you brought and how they are suppose to be propagated.) Unfortunately I advised them: "*imi ndimi varidzi vegarden motofunga zvamungada kuita nawo maherbs acho isu tozongo kubatsirayi kuti anodyarwa seyi*" (to decide their own solution) and lastly after some deliberations they agreed to dedicate one single bed for propagation process, which will be communally owned and cared for by every member of the project. Furthermore, if the herbs flourish they agreed to find sometime to transplant them into individual beds.

Leading role

After agreeing on a single bed **Pvc1** took over the task to prepare the nursing bed from **Pnov3** and demonstrated to the rest of the group how it is done. Then the whole group quickly helped in coming from different directions **Pic 6, 7 & 8**. I became curios, I went to **Pvc1** asked her, "*ko neyi mafunga kuita mega*?" (Why did you decide to take over the task?) And she replied, "*because izvi ndinozviziva ndakamboenda kuworkshop yemaherbs ka ini, asi pane makore akawanda*." (It's because I know this, I once went through a herbal workshop long time ago.) Therefore, the reason she demonstrated whilst others were learning from her and later helped.

Learning opportunities

The group finished preparing the nursing bed, **Pc1** went to consult with **Pvc1** who later approached me saying, "*nhayi Va Mukwambo ko zvandava nenguva ka idotibatsirayiwo ka. Tidzidziseyiwo kuti anodyarwa seyi moto demonstrator tionewo.*" (It has been long I did herbal propagation workshop please can you help us by demonstrating how herbs are propagated and teach us how to group them.) This kind of inquiry struck me because she showed mastery of herbal propagation principles therefore, I thought to probe deeper into the underpinnings to her response, knowledge and understanding about herbal propagation so I asked her, "*ko haasi maherbs ese here? Saka why muchida kuti timagrouper*" (Are they not all herbs? So why should we group them?)

But her response lured learning interest in her project members, just in few seconds they swiftly made one formal meeting again as shown in **Pic 9**. In her response she retaliate that, "*ini ndine karuzivo kekuti pane mamwe maherbs ari poisonous but mamwewo haasi anotodyiwa ende anotorapa uye achitandavara chaizvo*" (I

understand some of the herbs are poisonous whilst others are edible and medicinally useful whilst others can spread enormously) and this is what aggravated their curiosity and attention in **Pic 9**.

Afterwards, **P11, P10 & P7** started to throw each other questions and a lot of fingers pointing towards the herbs started as shown in **Pic 10** and among many shouted questions the most frequent and dominant question was, "*nhayi vasikana ndeapi ari poisonous*?" (Which ones are poisonous?)

Everyone was now curious and waiting to hear from me but, after explaining about the poisonous herbs and how to group them **Pc1** subconsciously shouted, "*oooh Mwari wangu, ndanga ndisingazivi zvese izvi,*" oooh my God I never knew of that," she was seconded by **Pnov1, P9** and **P10** and they all agreed they have learnt a knew thing and from that moment people were too observant and conscious to the Soapwort.

People also made small gatherings in which **PO1** and **PO2** reported that the participants were trying to identify the herbs and more curiosity was in knowing their uses. However, peer inquiry was dominant among the small gatherings but, when misunderstandings and doubts arose they always consulted me for verification, corrections and further inquiry on the medicinal and non medicinal uses of that herb.

Participation

I later demonstrated to the group how to propagate the herbs and highlighted the underpinning principles to herbal companion grouping as well as tips to what to look for when propagating herbs as shown in **Pic 11, 12, 13 & 14** (see appendix 1). In this activity each member agreed to take a task to propagate and remember at least an herb's name and its medicinal uses. Therefore, the activity was mainly hands on, by the group following all they have learnt in many ways as witnessed by **Pic 15, to 17** (see appendix 1)**.**

Evidence of dissonance

Pvc2 took over and tasked every one to prepare the herbs for propagation and all members later helped in the process (see **Pic 15 to 17** in appendix 1). However, signs of conflicts showed up along the process and this was evidence when **Pnov1, P10, P6** disagreed on the proper way to propagate the poisonous herb (soapwort), whether to mix it or separate it from the rest. Consultation with much senior members started; firstly they consulted with **Pc1. P6:** "*ko nhayi zvonzwiyi*?" (What shall we do?) and **Pc1** called in help from **Pvc2. Pc1:** "*vasikana ngatimboonesana ndimi munekaruzivo zvoitwa seyi, aah zvinhu zvacho izvi*" (Guys lets solve this at least you know better, what should be done?" and **Pvc1** later resolved the problem. In her resolution she reminded them: "*remember kuti herb iri rinospreader zvisingaiti ende riri poisonous plus rino poisoner ivhu paradyarwa saka hatinga kwanisi kurisanganisa nemamwe maherbs anodyiwa kana kurapa vanhu. Nagatiribviseyi kubva panemamwe maherbs toriisa paro roga*" (Remember the spreading effects of the herb, its soil poisoning effect and companion effect hence, she recommended separating the herb from the rest of the nursery.)

Sustenance of the practices

Pc1 and Pvc1 suggested organising another workshop where every member should be present and the workshop should be on herbal identification, labelling and learning on the medicinal and agricultural uses of the herbs. The present project's members agreed to pass on the learnt skills and knowledge to the absent project's members.

Furthermore it was interesting to note that even though the project's secretary was not around **Pnov2** agreed to take notes of the workshop's proceedings. She was also tasked to write down the workshop report and be filled.

After the session **P9** volunteered the closing prayer, where she also mentioned protection of their practice and success of their project.

Relating and interactions within the programme

The participants showed unity and respect for each other in much of their interactions. Most of the dissonances were resolved through democratic deliberations and co-creation of meaning and decision was evidenced. However, constitutional authority proved to possess overriding decision and shape of the practise. Therefore, this might be the reason to much of project's progress.

Informal groupings /meetings

It was evidenced that whenever there was a misunderstanding, problem or a challenge the participants would quickly form informal meetings or groupings and later rejoin as one meeting where they would deliberate on the topical issue and find a universally agreed solution. In this observation process the participants met 12 times for an average of 3 minutes per each informal meeting.

Power relations

Power relations seemed to play part in the sustenance of the project and in shaping up the project's practice. Project leaders seem to have an overall decision over project proceedings and planning. And knowledge gradient was also observed to have a leading role in shaping and organising practice within the project. The funding and founding organisational personal were much respected and their presents could be felt and made a quiet difference to the day to day practice of the project. Most of their decisions were somehow influenced by power and in favour of conservation which might have been influenced by the presents of SCEC personal.

Appendix 11: Interview schedule with the Centre director

- Introduction and explanation of what is expected of her, the research process and audio recording.

Interview process

- Please can you introduce yourself and your organisation
- Can you please explain in short how Chipembere gardening project started?
- Why was Rockvale village 2 picked of all the villages in Sebakwe?
- So how do you interact with the women of the project/ the project itself?
- What role(s) do you play in the running of the project?
- What impact does the gardening project has brought in relation to environmental conservation and community development?
- What direct benefits have the community realised from this project?
- What challenges, constraints or problems you have experienced as the founding and funding organisation of the project from the establishment or developmental phase to date?
- How did you dealt with them?
- In relation to learning are the beneficiaries learning and how are they learning?
- How does your position or organisational input have affected/influenced the practice of this project?
- What advise would you like to give to the project's members so as to maintain or increase the benefits they are currently accruing from the project?

Date: 15/05/2012
Venue: Chipembere nutritional garden

Appendix 12: An example of a shona transcribed and translated interview

Interview with Pvc1

Interview code: **IPvc1**

Audio: **Pvc1**

Date: **02/07/2012**

R: *Ndine audio recorder iyi, iri kurecorder zvayo kuti ndisapedza nguva ndichinyora.* (I brought this audio recorder, it will be recording all the interview so that I wont waste much time taking notes.)

Pvc1: alright

R: *Yaah handizivi interview yacho ndeye pamusoro pe garden. Saka Vamwe ndakatovaita mainterviews ndozvakanikira kuita munhu wekupedzisira nekuti handichazosveri ndichibvunza zvose ndavakungo bvunza zvimwe zvandingada kunzvisisa pamusoro pe gardeb ne mashandiro amunoita ku garden. Ndaikumbirawo kuti mundiudzewo muchidimbu zita renyu*. (Yaah the interview is on the gardening project. I have already conducted some interviews with other members of the project in earlier meetings. Anyway it is advantageous to be interviewed last because I won't spend much time asking what I already have but I will focus most on the lacking areas pertaining to how you interact & work together in the gardening project. So can you please tell me in short about yourself?)

Pvc1: *Zita rangu ndinonzi* … (I'm Mrs. …)

R: *Ok! Uye kuti muzosvika kuno makanga muchibva kupi? Maimbogara kupi*? (And tell me when did you relocated to Rockvale?)

Pvc1: *Ini ndanga ndichishanda ndiri pa Bob swift ndichishandira Gilpin. Saka pakawana vamwe mastands takambomamiririra ndokubva* …. (I was working for Miss Gilpin at Bob Swift farm. Initially I was supposed to have relocated to Pauldale but I failed and I was later relocated here (Rockvale village), so I was given a stand in this village…)

R: *Musati mauya kwaGilpin kumusha chaiko*. (Before you came to work for Miss Gilpin where were you living? I mean your rural area?)

Pvc1: *KwaChiundura*. (I came from Chiundura rural area.)

R: *KwaChiundura. Saka kwaChiundura makabvako rini muchiuya kugara kuno kuKwekwe*. (So Chiundura is your real rural area? And when did you left for work?)

Pvc1: *Aaah pavane nguva zvekutoti kuma20 something years*. (Aaah, I think it's almost 20yrs now.)

R: But *vabereki ndokwavarichiri ndokumusha chaiko chaiko* . (So that's where your parents are still living?)

Pvc1: *Aaah ini ndakarerwa na sekuru hanzvadzi yamai, baba vangu na mai vakange vasiyana …* (Aaah. I was raised up by my grand parents after the separation of my parents…)

R: *saka kunoku makatanga kugara zvarini kuRockvale*? (So when did you started living in Rockvale?)

Pvc1: *Ndakatogara vamwe vanga vatogara.* (I came a bit later after others had already settled.)

R: *ko garden mushandira pamwe wegarden makazojoiner rini*. (So when did you join Chipembere gardening project?)

Pvc1: 2010,

R: *Asi kurima kwamunoita mugardebn kwaka siyana seyi ne kwamaiita kwaChiundura kwamaimbogara*. (What is the difference between your current (Chipembere) gardening practices from gardening practices in Chiundura where you came from?)

Pvc1: *KwaChiundura kusiyana kwakwakaita neiri garden ratinaro ndekwekuti uko yaiva irrigation, pedyo ne irrigation saka irrigation munorimwa ma quarter quarter saka yakasiyana neredu nekuti iri rine ma portion madiki saka ayo ndeekuti kana vachirima vanosevenzesa mablocks. Kuti block rakati rinorima zvakati matimati, muriwo, wheat*. (There is a great difference in the sense that, in Chiundura they have an irrigation scheme and people have quarter beds aligned in blocks. So the portions are small and people grow uniformly within the block. For instance the whole block will be required to grow wheat and other block tomatoes only and it was individual work.)

R: *Saka uko maishandira pamwe here kana kuti maiita zvake zvake*. (So in Chiundura were you doing co-operative gardening or individual gardenin?)

Pvc1: *Munhu nemunhu aiita zvake zvake asi kana zvangonzi block iri rinodyara wheat block rese rinobuda ne wheat kana riri re madomasi rinobuda rese rakadharo*. (People were doing individual gardening but we would plant uniformly per block system. For instance, if a block was to grow wheat it would mean everyone within that block is suppose to grow wheat and nothing else.)

R: *Asi kubva pamakatanga kushandira pane renyu reChipembere pane here zvamakambonatso dzidzawo here maerano nekushanda nevamwe*. (Since you joined Chipembere gardening project is there anything you learnt from working together as a project.)

Pvc1: *Pakushanda nevamwe parizvino aah ndingangoti hangu ehe unowanawo karuzivo asi vatiri kushanda navo vamwe varikuratidza kuti ruzivo rwacho vanga vasina sevamwe vanhu vanga vagere mumapurazi vanga vasingaite zvemairrigation. saka pakutaurirana pakushanda kuti uwane kuti ruzivo ndinogoruwana pane zvakadayi zvakadayi handina kunatso ruwana, nekuti kuirrigation kwandaishanda kwaiva ne ruzivo rurimberi kudharika apa*. (Working together aaah, of course you gain some knowledge but most of the people have shown little knowledge.

I couldn't actually say I gained any knowledge gained from the rest group since they were residing and working in the farms. In the irrigation scheme where I came from there was more advanced knowledge and practices compared to Chipembere garden project.)

R: *Kudharika apa*. (More than this?)

Pvc1: eeeh. (Yes.)

R: *Saka ndizvo zvakaita kuti muitwe chairwoman here pamakatanga*? (So this is why you were elected the first Chairwoman of the project?)

Pvc1: *Aaah aiwa, ndakango nominatwawo vakangosarudzawo*. (No I was just nominated?)

R: *Vakakusarudzayi chamunganatso fungidzira kuti vakanatso ona chiyi*? (So why did they choose you? What specific reason would you say was the main reason you were elected?)

Pvc1: *Handizivi kuda pakudyara kwatanga tichiita kumagarden umu achiri ma one one,paya paya kuda vanhu vaionawo. Nekuti vanhu vanotarisa zvakawanda pavanhu, hunhu netsika nemagariro nevamwe zvinhu zvinotariswa nevaunenge ugere navo*. (I think, maybe people saw my expertise when we used to have our traditional individual gardens or they might have considered a lot of things such as behaviour, my relationship with neighbours, leadership qualities and so on.)

R: *Asi mambotaura magarden amaimboita kunoku anditi muchiti uyu pake pake pane neikozvino pamava kuita pane musiyano wakanyanya here.* (You have mentioned about traditional individual gardening, what is the major difference with your current communal gardening project?)

Pvc1: *Musiyano uripo nekuti tavakuita tiri pachinhu one saka izvozvo zvinoita kuti tiwane njere moto kubva kunevamwe anenge ari panextdoor kuti iwe madyarire awanga uchiita kana wanga usingagoni uya ari panext newe anogona kuti ugone kutora ruzivo kubva kune uyo ari padhuze.* (Yes there is a great difference since, we are now working together as a community and we can learn from others within the project. And this will help you if you were failing you can easily be challenged to do better by your neighbours and you can abstract some knowledge from nearby able garden members.)

R: *Asi izvozvo zvine matambudziko azvo azvino buritsawo ka izvo*? But this kind of project also comes with its own problems, what problems did you face?

Pvc1: *eeh matambudziko aripo nekuti mumwe anenge asiri veri strict nechii nekuda kuti anyatso ita zvinhu zvake achicoper kune chii achitarisa kune mumwe*. (Yes it is true, there were some problems when we started the project since, other members were not very strict to copy and learn from other members.)

R: *Asi imimi ndimi makanga muri chairwoman pamakatanga project, anditi*? (But you were the chairwoman when the project started right?

Pvc1: *Uuugh* (Yes)

R: *Matambudziko amakaona pakutanga project ndeapi*? (So what were the problems you faced in the developmental phase of the project?

Pvc1: *Matambudziko atakaona*? (Problems we faced?)

R: *Ehe* (Yes)

Pvc1: *Pekutanga tanga chaipo vamwe vakanga vasina kunzvisisa ne kugutsikana nekuti zvinhu izvi zvaizotibatsira. Vaingofunga kuti zvinhu zvataimira tiri one one, asi takaona kuti zvinhu zvakatibaetsera nekuda kwekuti tavakushanda tiri pachinhu pachinzvimbo chimwe chete hatichaiti kuti uyu pake pake zvinopa shungu kuti uyo kunyangwe ari padhuze newe asingadi kuti aite aiitewo kuti kumba kwake agoona zvingamubatsirawo*. Initially there were many problems since, not all members understood and appreciated that the project will bring benefits to their community and families. People thought we were going to do individual gardening but now we realised that this project helped us a lot since, we are now working together and it encourages individuals by learning by seeing, copying from other members and trying on your own portion/row.)

R: *Ok! Because ndichirikurangarira madays azvainzi paita matambudziko ekuti vanhu havadi kuenda parow yakati ne nerow yakati. Hameno kuti matambudziko iwawo makazomapedza seyi? Takazongoona vanhu vati zii musinga chaunzi mareports*. (Ok! I remember long time back when you used to send complaints to SCEC, inviting them to resolve your differences & conflicts but eventually it stopped. How did you manage to resolve the arising challenges and conflicts because you stopped reporting your problems/challenges to us?

Pvc1: *Ehe, aiwa takasvika pakugara tikataurirana nevaya vaya vene vemarows vanga vagara vakanhonga nekuti pekutanga takaita zvekunhonga mapuri tichiitira kuti tisanetsana nekuti vanhu vaiti tinoda kuenda pachuru nekuti pakaguta saka tikati ngatiite zvemapuri kuti munhu anhonge nhamba nhamba. Nhamba inoita kuti isaita nharo pasaita gakava. Vaya takazotaura navo tikati isu zvisineyi imi makanga musipo asi mazita enyu ariwo ekutanga, imi makanga musipo mukashandirwa nevai vakasara vachikushandirayi pamastands enyu. Saka zvirinani kuti muganhurirane kuti mumwe arime uko mumwe orima uko kuti zvinge zvinoenderana nekuti unenge usina kutema kubva pakatangira vamwe. Saka ndozvakazo tauurirana vakava nekutenderana nazvo.* (Yes we sat down and discussed with the people who were in conflict. And there major issue of concern was the anthill which they valued as the most fertile area and everyone wanted to occupy the rows with portion of the anthill. However, we implemented a play-card system to allocate rows among the members. Whereby, garden members would pick a card with a number from the box and that number represented your row number in the garden. And we later agreed with all the members who occupied the rows with the anthill to as

well share the soil with the rest members and all the issues were resolved in an amicable way and by majority consensus.)

R: *Saka parizvino muchine matambudziko here mamwe amurikusangana navo*? (So do you still have any problems in the project?)

Pvc1: Pagarden? (In the garden?)

R: Eeh (Yes)

Pvc1: *Aaah parizvino hatisati tavane matambudziko dambudziko riri pakuti kana tikati ngatiendeyi tinoshanda paya hatiendi nenguva yataurwa chaiyo. Mumwe anozokwanisa kuuya kuma 10 o'clock vamwe vaenda kuma 8am, saka vanenge vakasika kuenda vanenge vobhoikana nenguva yavanenge vauya, vaya vamwe vozouya late kuti tichibatana hazvichanyatso ita mushe.* (No we don't have any major problems yet, the only problem we have is members' punctuality to our meetings. We don't meet on the stipulated time for instance, some people would even come around 10 O'clock when others have gathered around 8am. So in most cases people who are always on time will be upset and for us to have one event it will be difficult.)

R: *Ok! asi panewo here pundutso yamati maona pakushanda kwamakaita*? (Ok! But is there any progress you have realised from your efforts so far?)

Pvc1: *Parizvino pundutso zvayo iri kuoneka kuti vanhu vaneshungu zvavo yekuti tinoda kuita zvinhu zvinoonekwa. Kana tichidyara chaiko iyezvino sekuwedzera mabeds anditi akambove, aka ari mashomaneyi tikati titutsire mabeds atinowedzera kuti tidyare titi half way toisa muriwo murefu kunoku toisa zvinhu zvidhuku zvokuti kana tichiisa mabeds acho toita three three kuti zvive zvinowanda. Kuitira kuti kana tikanyatso rima zvakanaka tigone kuti tiwane mota yatichahogona kuti imire pagarden tiise zvinhu zvedu zvatinodii zvatinonotengesa kuitira kuti titaure nevari kucentre vakatiwanirawo market yatinongosviko duririra zvinotiitirawo zvirinani.* (As for now we have started to realise the benefits and it has evident that the people are determined to see progress in the project. When we are growing we are adding more beds so that we can plant crops that grow tall on the other side of the bed and dwarf crops in three folds for variety. So that if we do well in the garden we can arrange a vehicle to transport all our produce and talk to people from the centre for ready market.)

R: *Saka parizvino garden riri kufamba haro zvakanaka*. (So is your project in shape now?)

Pvc1: *Haah parizvino riri kufamba apa ikozvino pangomiswa nekuda kwechando nekuti zvinaana rape zvakato dii zvakarohwa rohwa nechando tikatobvisa*. (Yes, it's moving forward though, we were currently affected by frost and our rape vegetable was affected.)

R: *Asi gore rakapera makaita futi dambudziko irori rechando.* (But last year you had the same problem.)

Pvc1: *Rechando ehe*. (Of frost? Yes.)

R: *Zvinoreva kuti gore rakapera hamuna kudzidza kana kuti*? So does this mean last year you didn't learn anything?

Pvc1: *Takadzidza asi sechinhu chinongoita neseason yachona nguva yacho yekuti mwedzi miviri iyoyo june na july ndeyekuti chando chinorova. Segarden redu riri padhuze ne pachiyi nepadam paya paya chando chinodii chinowandisa. Saka manje ipapao takanga tatombomira vanhu takato seeder maseeds arimo mugarden zvekutoti iye zvino mune maseeds ari mugarden atinototyira kuti dzimwe nhambo anokwanisa kuti angarohwa nechando nekuti madomasi chaiwo akatorohwa nechando wangosara muriwo murefu nesweet cabbage nemaonions*. (We learnt but its difficulty, because this is an unpredictable and unavoidable event which is seasonal especially in June and July. Furthermore our garden is too near to the dam and there it is too cold. So we had already stopped growing more crops but we have already nursed new crops in the garden. As we speak we have some young seed nursery in the garden which we are also afraid might be destroyed by frost, since all the tomatoes have been destroyed the only plants survived is tall vegetables and onions.)

R: *Asi ndinonzwisisa kuti kune mudorman vanouya vachikudzidzisayi anokudzidzisayi seyi*. (But I understand that there is also an extension officer who comes around teaching you. How does she teach you?)

Pvc1: *Aaah mudorman wedu kutaura chokwadi ka kutidzidzisa kwacho anouya pamunenge muchiuya kana kukanzi kune mavisitors arikudii arikuuya ndipo dzimwe nhambo tinomuwanawo asi pamwe pese apa hatikwanisi kuti tidiyi kusanagana naye tinozoto dyara toga iye asipo*. (Aaah to tell the truth we only met with the extension officer when you (SCEC) visit us or when there are some visitors coming to the project. So most of the times we cant meet her so sometimes we end up planting in her absents.)

R: *Asi madyarire akanga akakudzidzisayi ka*? (But did she teach you how to plant?)

Pvc1: *Madyarire akatidzidzisa zvese ne marows kuti anofanirwa kumira akadayi akadayi akatidzidzisa*. (Yes, she taught us how to grow vegetables, lay out of the bed rows and how to practise crop rotation in the garden.)

R: *Ko neve kucentre manje munobatidzana seyi*? (How do you interact with SCEC?)

Pvc1: *Aaah neve kucentre tinobatidzana zvakanyanyisa nekuti ndivo vakaita kuti tiwane garden iro riya tive nekusimudzirika kubva pataive tiri. Ndivo vanotibatsirana nemaseeds kana nezvatinenge tichida vanototi huyayi mutitaurire nekuti tinoda kuti muve vanu vanoramba vachisimukira kubva pamuri ipapo*. (Aaah we have a strong bond with SCEC because they are our founding and funding organisation. Furthermore, they support us with garden inputs such as vegetable seedlings and they always want to see us progressing in life.)

R: *Asi project yegarden haina kutangira pa garden chete ka*? (But this gardening project did not start as a gardening project only right?)

Pvc1: *Eeeh yakatangira pa ku obvious takanga tavakunoku pa nhingirikini ma…* (Yes, it obviously started as a)

R: *Pamastove* (With stoves.)

Pvc1: *Eeeh pamastove ndipo pavakatitangira, vakatiti mudzimai mumwe nemumwe uve ne, musha uve nestove kana wavanestove toona kuti tiinde mberi tichitarisazve pakabva mastove ndopakauya garden. Papinda garden vakati ticharamba tichingo continuer tichitarisa kuti imi muchanaga muchizvichifambisa seyi*. (Yes it started from the stoves, they advised each and every women in the community to own an improved stove in her home afterwards they will see how we can proceed. And that's when we got the gardening project and they promised to keep supporting us.)

R: *Saka iyezvino mavapapi manje kumbere kwamainzi tichange tichienda mberi*? (So how far have you achieved?)

Pvc1? *Parizvino ikozvino tavane nguruve ndidzo dzatinadzo*. (Now we have a piggery project.)

R: ok!

Pvc1: *Takabva kumastove, tikaenda kugarden, tikauya pahuku ikozvino tavane nguruve.* (We started from the stoves then to the garden, then to poultry and now to piggery project.)

R: *Saka project iri kukubatsirayi ka*? (So is the gardening project helping you?)

Pvc1: *Aaah zvirikutibatsira parizvino kuti titi zvanyanya kuti batsira asi kuti zviri kutipa kuti tinogona kuramba tichicontinuer tichienda mberi nekuti tirikuti tikabva pane ichi tigona kuita chimwe zvichingodii zvichingofamba tichienda mberi*. (Yes, this is helping us, currently we can't say it has helped much but its keeping us going since we are able to step into next projects.)

R: *Asi kuriseyi zvako pakukubatanidzayi sevanhu vecommunity zvine zvazvakanyanya kuyamura here*? (But in terms of unifying you as a community, did the gardening project achieved?

Pvc1: *Zvinotibatsira zvikuru nekuti tinowana zvakawanda zvatinogona kuita zvatinenge tichishuwira zvatinenge tatadza zvatinenge tichida kuti tikataura kwavari tinobetsiriwa asi nehukama kwedu navo vanonzwa kuchema kwedu munguva dzese*. (This helps a lot because we get much we desire from the centre. If we just tell them what we desire they will help because of the good relationship we got.)

R: *Saka pagarden murikudzidza here*? (So are you learning anything from the gardening project?)

Pvc1: *Aaah pagarden iko zvino hatichazivi nekuti tavane ruziwo rwekudii kuti tichienda mberi*. (Aaah from the garden? I don't know now because we already have acquired knowledge to go further.)

R *Ok! kuridziro yamungakwanisawo kupa kana kuri kuti garden rienderere mberi kana kuti zvimabenifits amuri kuwana zvirambe zviripo*. (Ok! what advice would you want to give so that you can increase the benefits you are currently getting from the project or to maintain them?)

Pvc1: *Tinoda kuti tienderere mberi tichipawo kurudziro kune vamwe vasati vakwanisa kuti vazviite*. (We would want the project to progress and encourage others to achieve.)

R: *Ok, parizvino muchingori kuita muri village inoyi chete anditi*? (Are you still doing the gardening as Rockvale village one alone?)

Pvc1: Ehe (Yes.)

R: *Hapana vamwe vakauzojoinira pamberi kana kuti*? (Are there any newcomers or externals who joined the gardening project?)

Pvc1: *Aah tine vamwe aah pakuganhura kwatakaita tine vamwe baba veku3 vatirikushanda navo mukati* . (Aah we have one. When we divided the garden rows there was one male who lives in village 3 who joined us and we are now working with.)

R: *Vakauya kuzojoiner havo?* (So did he come to join you?)

Pvc1: *Eeeh vakauya vakati tine kunevamwe vaya vakati tichibvunza kuti munokwanisa here kushanda muchisvika kumapeto vakati havakwanisi tikati zvinoita here kuti titsvage vanobata vachisvika kumapeto ivo vakati eeh tinoda, tikabva tataurirana navo vatakanzwa kuti vanoda tikabva tatovaisa*. (Yes, he came and we asked them if they could utilise all their portions and they said they cant so we asked them if it was possible to look for new players who can come and utilise their deserted portions. And they agreed to the idea, so we talked to those who were interested and we invited them.

R: *Aiwa ndinotenda chaizvo neruzivo rwamandipa, maita basa*. (Ok! Thank you very much for the knowledge you have shared with me. You did great.

Pvc1: ok!

The End

Appendix 13: Analytical Memo 1

Analytical memo 1

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Category/theme	Summary of evidence	Sources
Community composition		
	…boka remadzimai rinofanira kuve wevakadzi chete.	Doc GC
	Kuti munhu abvumirwe kuva nhengo anofanira kuva nechoto chetsotso chakavakirirwa.	Doc GC
	…anofanira kubadara mutero wekubatanidzwa nevamwe, mutero uyu unenge wakatarwa ukabvumirwana nenhengo dzebindu.	Doc GC
	…mibhedha iyi inokwanisa kuzopiwa vamwe vakadzi kubva kune mimwe misha zvichienderana nekugarisana kwavo nevamwe.	Doc GC
	…where we met a couple of women…	Doc GC
	It's actually village 1	ICD4
	but village 1 had 20 so it was a manageable number	ICD4
	ikozvino igore rechitatu	IPc1
	Ndini chairwoman wacho.	IPc1
	Kuchengetwa kwemhuka idzi …ndipo pakabva zita rekuti chipembere	IPc1
	Ndakataurirwa nevarimi vacho…	IPc1

Membership	*Aaah pavane nguva zvekutoti kuma20 something years.*	IEO
	Ndakatogara vamwe vanga vatogara. …2010	IPvc1
	…uko yaiva irrigation.	IPvc1
	…saka irrigation munorimwa ma quarter quarter saka	IPvc1
	yakasiyana neredu nekuti iri rine ma portion madiki…	IPvc1
	…kana vachirima vanosevenzesa mablocks. Kuti block	IPvc1
	rakati rinorima zvakati matimati, muriwo, wheat.	IPvc1
	Aaah aiwa, ndakango nominatwawo vakangosarudzawo… igore ripiko iroro (laughing) … 2010	IPvc1
	…tine vamwe baba veku3 vatirikushanda navo mukati…	IPvc1
	Ndokubva tatanga kuita garden redu 2010 kusvika	FGI P13
	parizvino tave mu2012	FGI P14
	Pic 7 is evident to Pnov6, who is constitutionally not an active member to the project but is a relative of P5…	OB1
	… some were novices standing in place of their parents and mother in laws.	OB2
	Whilst, she was giving a lecture P12 was busy taking notes (Ref: Pic4). PO3 later reported that, "he investigated on why P12 …as the projects' secretary".	OB2
	…younger and novices who just came to stand in their absent parents' positions…	OB3
Member Origin	*Ini ndanga ndichishanda ndiri pa Bob swift ndichishandira Gilpin … KwaChiundura.*	IPvc1
	…tine vamwe baba veku3 vatirikushanda navo mukati…	IPvc1
	Kumusha chaiko chaiko kwandakabva kuChivhu asi tineimba kukwekwe…	FGI P13
	Takabva kuMhondoro	FGI P10
	…ndiri murimisi munzimbo yeRockvale.	IEO
	…kumusha chaiko ndekwaMurehwa kuMhondoro kwaingova kweku kwaiva kwababa…	FGI P10
	…muno takabva mumapurazi paBob Swift apa…takabva kwaChirumanzi	FGI P14
	…tichibvawo kupi kwaChiundura ndo kune vabereki	FGI P6

	vangu.	
	…takabva kuMhondoro…tikazouyawo mumapurazi saka…	FGI P12
	ndinobva kuGokwe…ndakatamira kuPauldale	FGI Pn15
	ndikazouyawo kunoku kuRockvale. Ndaigarawo kuvillage 2 ndikazouya kuno kuvillage 1, ndakazotangawo kushandira gore rino 2012	
	ndakabva kumhondoro ndokwatanga tichigara ndopatakazouya kuno 2004	IPc1
	…misangano kaviri pamwedzi.	Doc GC
	Kunonoka kumusangano nechikamu… $1 pese paanononoka kumusanga.	Doc GC
	Bindu richadiridzirwa neMuvhuro, Chitatu nemuGovera kubva na 6 mangwanani kusvika na 4 masikati.	Doc GC
Policy	Vasingatevedzeri mitemo … pamaitiro avo nhengo idzi dzinoburitswa mubindu.	Doc GC
	Nyaya dzese dzinezvekuita neboka remadzimai rebindu dzinofanira kukurukurirwa ku bindu zvakadzama kwete kudzimba	Doc GC
	Kurovha misangano katatu kakatevedzana zvinoita kuti munhu aburitswe kuve nhengo yemubindu zvachose.	Doc GC
	Munhu anetsika yekurovha anobhadhara mutero unokwana iwo kuita $5 pese paanorovha.	Doc GC
	Zvakadaro nhengo dzese dzinofanira kuno shanda mubindu China chega chega.	Doc GC
	…anenge aramba achiita nharo ndinongomuti tokuisa kwaSabhuku.	IPc1
	…ukangomuudza kuti tavakukuisa kumutemo anoziva kuti kumutemo anono bhadhariswa mbudzi saka iyewo anongobva angokumbirawo ruregerero.	IPc1
	…zviwanikwa zvinochengetedzwa nekuti mutemo chaiyo inotoveko…	IPc1
	…mutemo inotochengetedzwa kana mhuka chaidzo	IPc1

	tinotopesana nadzo nguruve ne mhofu dzichitoita madiro kuminda kwedu.	
	Eeeh pamastove ndipo pavakatitangira…	IPvc1
	Boka rebindu richava nevatungamiriri pfumabwe.	Doc GC
	…sachigaro, mutevedzeri wasachigaro, mabharani, mutevedzeri wamabharani, nemubati wehomwe, mupurisa nemutevedzeri wake, uye nevamiriririri vevanhu vaviri.	Doc GC
	Vamiriri vevanhu vachasarudzwa gore rega rega.	Doc GC
	The members asked for permission to cut down some thorny shrub to fence the garden	Doc Fr2
	…dzimwe nguva unogona kuenda mamwe mazuva uriwoga zvako kunodiridza asi tine zuva rekusangana musi watinenge tichidyara kana kuti musi watinenge tiine musangano.	FGI P13
	…they say things like *he-e ana mai …….. havazvidi izvi (*don't like this) because they know what we expect	ICD4
	…some use the stoves when we are coming.	ICD4
	…also to appreciate that their garden benefits them and not us.	ICD4
Power structures/relations	*Ndini chairwoman wacho*.	
	R: *Makatanga kuita chairwoman zvarini*? (When did you become the chairwoman?)	IPc1
	Pc1 *Gore rakapera* (Last year (*2011*).	IPc1
	Ndakasarudwa nevanhu	IPc1
	…ndiripo pakuti kana tiine basa kugarden ndinotanga ndaunganidza vanhu ndoti munoda kuti tiite seyi ivo vondiudza kuti ikozvino tinoda kuti tiite zvakati ini ndoti ngatichiiteyi.	IPc1
	Masimba aripo masimba ndikaashandisa ndikaona vandikunda inini ndoisa kumutemo	IPc1

	kunoda kuti ndiite seyi tovhara garden here?	
	Ndinoona kuti ehe paneinfluence ndinokwanisa kuti	IEO
	ndovaverengera ma number of beds dzatinoshandisasa…	
	…vanofollower ma instructions	IEO
	tinokupayi fence motanga kuita garden rimwe chete musatema miti.	FGI P14
	…tinoti kana nursery yadyarwa zviya painenge yakura chairwoman vanototiudza kuti nhasi tiri kunosima.	FGI P13
	…vanouya voti mihomba yenyu iri chinjisanayi kudyara mbeu isusu tinenge tatodzidzawo…	FGI P14
	…anditi unozoita uchiti uwane number one	FGI P13
	…ndimudhumeni wedu kazhinji.	FGI P13
	Pc1 took over and welcomed all the visitors	OB1, OB2 OB3
	Pc1 welcomed the project's members and all the visiting personals…	OB3
	The process was characterised by a distinctive division of labour whereby other members were sowing, fetching water and the young watching carefully (ref to Pic 5).	OB3
	The most experienced members took the most cautious roles in the process.	OB2
	Pc1 welcomed all visitors and she introduction the present garden committee members.	OB2
	Pc1 took lead of the workshop proceedings	OB3
	During the process the **Pc1** led in most of the activities	OB2
	Pc1 officially handed over the baton to the Extension officer (EO).	OB3
	…acknowledged the absence of other senior project's members who committed themselves to the piggery and communal road project	OB3
	In this case the selected (**Pnov1 &Pnov3**) emphasised that their selection for the task was on based on seniority.	OB3
	…the project's secretary was not around **Pnov2** agreed to take notes of the workshop's proceedings…	OB3
	Project leaders seem to have an overall decision over	

	project proceedings and planning	OB3
	…knowledge gradient was also observed to have a leading role in shaping and organising practice within the project. The funding and founding organisational personal were much respected and their presents could be felt and made a quiet difference to the day to day practice of the project.	OB3
	…they run the project on their own.	ICD4
	By doing	ICD4
	No, please learning by doing	ICD4
Gardening	…their own knowledge which they apply.	ICD4
Practices	…their own methods which they were applying in the garden, when we go there they would tell us to pest control	ICD4
	you mix this and that blaah-blaah	IEO
	Kunyanya tinorima muriwo, cabbage, rape, spinach and tomatoes.	IPvc1
	Munhu nemunhu aiita zvake zvake asi kana zvangonzi block iri rinodyara wheat block rese rinobuda ne wheat kana riri re madomasi rinobuda rese rakadharo…	IPvc1
	…pachinhu one saka izvozvo zvinoita kuti tiwane njere moto kubva kunevamwe anenge ari panextdoor…	FGI P10
	Zvokutanga ne matsotso stove tichingoramba tichisimukira tichipinda mugarden	FGI P13
	…patinosangana pese mugarden kazhinji tinenge tichidiridza kana kudyara mbeu yatinenge tichifanirwa kudyara ipapo.	FGI P13
	…zvatinenge tichidyara zvinofanira kunge zviri uniform.	FGI P13
	…tinonyanyo dyara muriwo wakaita se toti madomasi, rape, cabbage ne spinach ne beans.	FGI P13
	…kazhinji zvinhu zvatinoita mugarden medu imomo tinoita na vamudorman saka vanotiudza kuti iyezvino ngatiiseyi ichi apa, ichi apa.	FGI P13
	…tingazoisawo mihomba yeterreryn kazhinji.	FGI P14
	…ehe tine maherbs atinawo arimo mugarden, ndiwo	

	atinoda kuti tienderere mberi kuti tirambe tichidyara maherbs iwawo.	FGI P13
	…mabucket ne zvigubhu.	FGI P13
	…kudzidza kwatiri kuita ndekwekuti rinotibatanidza.	FGI P13
	…zvinotipa umwe chete hwokubata pamwe chete tisingati haa ndecha nhingi hameno hake achazouya ozvioona…	OB1 P16,
	…event was officially opened by a prayer from a volunteer.	OB2 P10 OB3
	A volunteer from the group **P11** gave an opening prayer.	OB3
	After the session **P9** volunteered the closing prayer	OB1 Pc1,
	She proceeded with a slogan *"madzimai! pamberi nekubatana, pamberi nekuzvishandira pamwe, pamberi nekukurudzira munhu kadzi, pamberi nekudyara uye kudzidza pamwe…*	OB2 Pc1 OB1, OB2
	reset of the members chanted "*pamberi hatidi nyope, pasi nevanoda kudya varere, pasi ne vane shanje, pasi ne vasingadi kudzidza isu matura fasha fasha*	OB1
	…role sharing and duty roaster were the last things to be done.	OB2
	She reminded us once again to the cause of our gathering despite the fact that it was a Thursday…	OB2 EO
	EO instructed: *veduwe munhu nemunhu parow yake wotarisa kuti hapana here tuzvimbuyu pamuriwo wenyu…*	OB2
	People scattered around investigating on the detrimental pests…	
	…whilst **Pnov1, Pnov3** were send to fetch water from the nearby (50m away) dam for watering…	OB3
	…the project's secretary was not around **Pnov2** agreed to take notes of the workshop's proceedings…	OB3
Main objectives	Bindu richadiridzirwa neMuvhuro, Chitatu nemuGovera…	Doc GC
	To asses progress being made at the garden	Doc Fr1
	To monitor the project and also for progress evaluation	Doc Fr1
	But from our side, from a conservation point of view were hoping that if they grow vegetable in the community it will	ICD4

	prevent them from poaching for relish. *Tirikubatsirana nevarimi kuti tivadzidzise kurima, eeeh paproject iyi tirikudyara hedu mavegetables.* *Kunyanya tinorima muriwo,* cabbage, rape, spinach and tomatoes d) Learn how to do a vegetable nursery e) Put in place a watering duty roaster f) Put in place a guarding duty roaster **Pc1** introduced everyone to that day's activity incorporating herbal gardening to their vegetable farming… **<u>Muono wekusvika kupera kwegore ra 2015</u>** ➢ Kunofanira kuva nekubatana pakati pevanhu kadzi. ➢ Kuve nebukubudirira kwemagariro pakati pevanhu veboka pamwe nemhuri dzavo. ➢ Nhengo dzeboka dzinofanira kuwana mari kubva mubindu. ➢ Kunofanira kuva nebudiriro. ➢ Kunofanira kuva nehupfumi.	IEO IEO OB1 OB3 Doc GC
	Factors influencing the gardening development	
Unsustainable practices	The members asked for permission to cut down some thorny shrub to fence the garden she noted with concern how people consumed a lot of firewood unnecessarily to cook their meals, everyone relied on firewood since there is no electricity people had already their own private individual gardens to show that they really needed a garden people had already full private gardens but they were not sustainable they way they were managing them	Doc Fr2 ICD4 ICD4 ICD4

	…aaah zvimagarden takanga tagara tiinazvo.	IPc1
	takatanga tichisosa zvimagarden	IPc1
	kumagarden umu achiri ma one one,paya paya	IPvc1
	…vekuconservancy vachifamba munzvimbo muno vakaona kuti miti tirikutema ende futi moto yaiuya ichipisa kana wapisa ndikaona garden rangu ratsva ndinotema futi ndichidzosa.	FGI P14
	…takatangawo kuita zvimagarden zvedu izvezvo zvinorehwa zvepaDam apo.	FGI P6
	…kuti mava kupedza chii miti muno muchitema, gore ne gore matema chatsva maita zvechimwe moto uya wapisa maita zvechimwe..	FGI P6
	…zvimagarden zvedu zviduku zviduku izvozvi…	FGI P12
	…nekuti isu taitoti dayi ndine zidanda gobvu ndoriisa panze apo pastove yangu yesimbi mhepo…	FGI P13
External mediation		
	We recommended that there is need of continuous of their crops	
Training	For easy marketing for their vegetables…but with ready market for his vegetables.	Doc Fr1
	Constant monitoring of the project is needed at least once or twice a week.	Doc Fr1
	Efforts should be put so that everyone plays a role in the continual survival of the project	Doc Fr2
	It started after a research on women & biomas	Doc Fr2
	realised we needed to meet with the women doing	
	workshop with them about their use of firewood on how,	ICD4
	what their action today will affect their future	ICD4
	work-shopping and bringing them together introducing this concept of working together as a project	
	Also facilitating the formation of a management committee of the project and provision of education	ICD4
	so right now all we do is to monitor, here and there	ICD4
	introducing the concept of working as a project it can go	

	down well with some or it cant so the women had small	ICD4
	conflicts here and there	ICD4
	we only started doing the first workshop with the women in 2008	
	So in terms of work-shopping and talking about deforestation and what it should be in 2008	ICD4
	…lessons or informal well they are informal lessons which they are taught by the Arex officer *anditi.*	ICD4
	…shows them, sort of a show and tell this is how you should do your bed…	ICD4
	…work-shopping of course that was another way of learning where we had discussions and us presenting on	ICD4
	deforestation and poaching…methods such as role play.	ICD4
	presentations, talks, demonstrations and a lot of methods that are involved	
	…tingangoti mukubatsirwa nekudzidziswa kuti mhuka inokosha ndopakazo konzeresa kuti tiwane wire…	ICD4
	Kuchengetwa kwemhuka idzi ndiko kwakakonzeresa kuti tiwana chii wire ndipo pakabva zita rekuti chipembere	IPc1
	…ndinogara ndichipindawo mavari tichipanana nguva dzekuti parizvino tinoda kurima chakati time yakati	IPc1
	tinorima chakati saka tinongoudzana kuti tichaita ma meetings.	IEO
	Vanokwanisa kunurser ndisipo nekuti zvese izvozvo vakazvidzidza saka vava kukwanisa kuzviita chero ndisipo	
	Apa ilecture…Ehe nema demostrations	IEO
	…mudorman wedu kutaura chokwadi ka kutidzidzisa kwacho anouya pamunenge muchiuya kana kukanzi kune	IEO
	mavisitors…	IPvc1
	Madyarire akatidzidzisa zvese ne marows kuti anofanirwa kumira akadayi akadayi akatidzidzisa	
	…vakabva vatanga kutidzidzisa kuti hongu magarden enyu aya akanaka asi murikuparadza ndokubva vatidzidzisa	IPvc1
	zvokuti tiite garden remubatanidzwa…	FGI P14
	…ruzivo rwabva mukudzidziswa ne veconservancy.	

	…saka vanenge vachitidzidzisa uye nekushanda kunoita miti uye nekushanda kunoita maherbs…	FGI P14
	…uye vakatidzidzisa kudyara takaita uniform tiri tega taingoti chero zvazvaita.	FGI P14
	Tinenge tichito chinjanisa chinjanisa kubudikidza na mudhumeni	FGI P14
	…nemadyarire ataita kare taingoti pamwe ndodyara ndakadayi saka iyezvino tavakuziva kuti mudhumeni anoda macentimetres akati kuti tidyare muriwo wed.	FGI P13
	…plus pagore rino takadzidziswa kuti isusu kudyara kwatinoita garden…	FGI P6
	…takadzidziswa kuti itayi zvose, kugarden zvipeyi nguva yokuti mazuva akati kugarden mazuva akati kumunda sezvo tiine china chimwe chatisingashandi…	FGI P14
	…teaching them on the appropriate soil type, conditions for a successful or 100% seed generation rate.	FGI P14
	EO went on explaining the importance to considering seed/plant companion when nursing seedlings (Pic 3).	OB1 EO
	In Pic4, P14 is explaining on how her nursing bed is appropriate for onion seedling nursery whilst others are listening.	OB1
	…then instructed all garden members to join and assist the owners of the 10 selected nursing beds.	OB1
	…gave a general lecture on pests, signs and symptoms of diverse pests and the ultimate signs that can be observed from the plant (Ref: Pic2 & Pic3)	OB1
	I later demonstrated to the group how to propagate the herbs and highlighted the underpinning principles to herbal companion grouping…	OB2
	…the activity was mainly hands on, by the group following all they have learnt in many ways as witnessed by **Pic 15, to 17** (see appendix 1)	OB3
	Pc1 and Pvc2 suggested organising another workshop where every member should be present and the workshop should be on herbal identification…	OB3

New sustainable practices	Farmers were also advised to dry some of the vegetables in preparation for next season.	
	The women managed to gather droppers to fence the garden	Doc Fr1
	…as an incentives to get them interest in our proposed project on improved *tsotso* stoves.	Doc Fr2
	…we will help them to establish a community garden since we new vegetables are a problem.	ICD4
	…the actual project was improved stoves, the garden was an incentive for the improved stove.	ICD4
	…we donate seeds and other things of need…	ICD4
	…they already some of the conservation practices we have influenced them to do like this thing of fencing…	ICD4
	…vertiver grass instead of cutting down trees…	ICD4
	Yaah some got hooked to the stove	ICD4
	kwazouya VaZazu apo ndokubva vazouya nechirongwa chekuti miti haitemwi toda kuti tichengetedze zviwanikwa.	ICD4
	...kana muchikwanisa kuita sevillage one mukagona kubatana mukataurirana mukawana nzvimbo tinogona kukubatsirayi ne wire.	ICD4 IPc1
	...wire yedu yekugarden haina kuchengeteka zvakanaka inobiwa.	IPc1
	pakushanda kwedu manje mugarden kunogwadza kuchera mvura kuvanhu vakuru	IPc1
	...saka ndinenge ndichivadzidzisa kuti vaise churu pariweak paya kuti ivhu racho ri improve.	IPc1
	...pakachizoita zvakauya neveku sebakwe conservancy vakati tinoda kuti muite mastove madiki diki aya asinga pedzi huni...	IEO FGI P13
	...tinokupayi fence motanga kuita garden rimwe chete	

	musatema miti.	
	Zvikazoonekwawo neveConservancy… aiwa better tikupe garden remubatanidzwa we project.	FGI P14
	…kusvikirawo tazoona veConservancy vakati tokupai fence, vakatipawo fence tikaitawo garden redu remushandira kubva 2010 kusvikawo ikozvino.	FGI P6
	…kuti kana tiine maherbs akati wandeyi erudzi rwakati nerwakati zvinokonzera kuti zvimhashu zvirege kunyanya kudya muriwo.	FGI P12
	...zvekuti tiite chinhu chimwe chete zvakafanana plus futi kuti tizive kuchinjanisa mbeu.	FGI P14
	…ne wire iri pagarden iroro icentre.	FGI P10
	ne matsotso stove avo akatidzidzisa kuchengetedza huni.	FGI P13 FGI P5 FGI P14
Constraint to emergence	In the garden we observed that some members were being reluctant.	Doc Fr1
	…the problem was as a result of inconsistence from project members.	Doc Fr2
	…one problem highlighted was problem of animals i.e goats, hares and birds.	Doc Fr2
	The members also mentioned lack of seeds but on this challenge some members observe this to be a problem of dependence syndrome…	Doc Fr2
	Efforts should be put so that everyone plays a role in the continual survival of the project.	Doc Fr2
	As a centre is basically all the problems in Africa “money”	ICD4
	…introducing the concept of working as a project it can go down well with some or it cant so the women had small conflicts here and there…	ICD4
	…other challenge that the project faced was of pests attacking their crops…	ICD4
	…then of course they thought because we said we will fund them they thought we will continue doing that…	ICD4
	So most of the problems besides of pests emanated from	ICD4

	lack of resources.	
	Parizvino irikuti batsirawo nemaseeds.	IPc1
	mukati medu manje mune vamwe vasina hanya nekuti muriwo zvawadyarwa unoda kuchengetedzwa… vamwe vanototi vanobva nemombe kuno kumba otonofudzira. mombe kugarden…	IPc1
	Eehe anongonzi hameno hawo ndivo vakamagamuchira ndivo vanofanirwa kudiridza.	IPc1
	…pakuti tinopererwa pau20 hwedu tinoshaiwa maseeds e dollar $ tiri 20 kumira chaiko kuti tatoshaiwa kudyara tashaiwa mari. Asi miriwo taikatengesa ende tichitengesa…	IPc1
	Maseeds tinopiwa nevekunoku ku Education Centre	IEO
	…murimisi zvake haana transport…	IEO
	Saka movement yangu inenge iri limited.	IEO
	…vachitanga paita sekuti vanwe vanenge vachiri kusarira	IEO
	…kunyanyisa kuzviona zvakanyanya, chekutanga ndinoti pamushonga yatinotreatisa pamapests ndochekutangisisa ichocho.	IEO
	…ngavasasamirira kudoneterwa, zvinokwanisa kuti nonokeyiwo time ichifamba mamwe macrops anofambirana ne season.	IEO
	…ndingangoti hangu ehe unowanawo karuzivo asi vatiri kushanda navo vamwe varikuratidza kuti ruzivo rwacho vanga vasina sevamwe vanhu vanga vagere mumapurazi vanga vasingaite zvemairrigation…	IPvc1
	…mumwe anenge asiri veri strict nechii nekuda kuti anyatso ita zvinhu zvake achicoper kune chii achitarisa kune mumwe…	IPvc1
	Pekutanga tanga chaipo vamwe vakanga vasina kunzvisisa ne kugutsikana nekuti zvinhu izvi zvaizotibatsira.	IPvc1
	…kana tikati ngatiendeyi tinoshanda paya hatiendi nenguva yataurwa chaiyo.	IPvc1
	ikozvino pangomiswa nekuda kwechando nekuti zvinaana rape zvakato dii zvakarohwa rohwa nechando tikatobvisa.	IPvc1

	Ndivo vanotibatsirana nemaseeds kana nezvatinenge tichida…	IPvc1
	Gore rakapera takadzidyara zvendu asi dzakakurumidza dzakarohwa nechando	FGI P13
	…tinopiwa mbeu dzacho neConservancy.	FGI P13
	…asi challenge yatakambotiti bata bata vamwe vazhinji ndeye kuti maside atiri vamwe anonyudza.	FGI P13
	…nekuti rinokurumidza kunzwirira mvura side iroro ndochallenge iripo chete not yekubva kumunhu…	FGI P13
	…kuti tive nemuriwo mugarden icentre, parizvino takatotengerwa mamwe mapackets anokwana kuita about 9 packet.	FGI P14
	…in this case water is head ferried to the garden which might be a tough & strenuous task to the present elderly women in the group.	OB3
Benefits accrued	…observed through more vegetables such as covo, sweet cabbages, tomatoes, onions, ocra and butternuts which were in the garden.	Doc Fr1
	…surplus vegetables in the garden which needs them to sell some.	Doc Fr1
	…they sale them for R5 or a $1 but it's a R5 extra which they did not have.	ICD4
	…is they realised the benefit of working together…	ICD4
	…they started a chicken project, they want to start a sewing project right now they are already doing a piggery because they have two pigs and all those are like babies from the garden project.	ICD4
	…but, I'm sure by starting other projects they have seen the benefits.	ICD4
	Vazhinji vanga vasingakohwi vavakudya sadza vasina kutsvaga mari	IPc1
	…vava kutemha muriwo vonotengesa votouya nebucket rako vodya sadza.	IPc1
	…sadza vachidya mari yechigayo yacho achiiwana ipapo kana kubhadharira vana vechikoro.	IPc1
	…kune vamwe vanga vachitoda kupinda mukati imomo kuti patokura kudarika zvapari.	IPc1

	Vanoratidza kuti varikudzidza nekuti pane pamwe…	IEO
	Vanokwanisa kunurser ndisipo nekuti zvese izvozvo vakazvidzidza saka vava kukwanisa kuzviita chero ndisipo.	IEO
	Asi parizvino tirikusangana nenguva yatinenge tataurirana kuti tiri kuda kuita ichi…	IEO
	…vaito tengesa muriwo kubva murgaden irori.	IEO
	…hatichaiti kuti uyu pake pake zvinopa shungu kuti uyo kunyangwe ari padhuze newe asingadi kuti aite aiitewo kuti kumba kwake agoona zvingamubatsirawo…	IPvc1
	…iyezvino sekuwedzera mabeds anditi akambove, aka ari mashomaneyi…	IPvc1
	Parizvino ikozvino tavane nguruve ndidzo dzatinadzo…	IPvc1
	Takabva kumastove, tikaenda kugarden, tikauya pahuku ikozvino tavane nguruve.	IPvc1
	uniform ndiyo inouya namudhumeni.	FGI P6
	uye kuparadzanisa mbeu, mbesa dzedu.	FGI P13
	…senior project's members who committed themselves to the piggery…	OB3

Appendix 14: Analytical Memo 2

Analytical memo 2

Learning opportunities embedded in the Gardening project						
Categories	Practise	Dissonance/conflicts	Diversity	Mediating artefacts		
				training	Power relations	IKS
Coding						

Learning opportunities embedded in the gardening project		
Category	**Evidence**	**Sources**
Practise	she then instructed all garden members to join and assist the owners of the 10 selected nursing beds	OB1
	She instructed the group to mulch their nursery	OB1
	P12 was busy taking notes (Ref: Pic4)	OB2
	EO instructed: *veduwe munhu nemunhu parow yake wotarisa kuti hapana here tuzvimbuyu pamuriwo wenyu. Tarisayi bed by bed nekuti mapests anodya matomatoes akasiyana ne anodya macabbage.*	OB2
	…they were trying to pick up the pests they identified and present them…	OB2
	Pnov2 who was ordered to prepare the nursery bed…	OB3
	Then the whole group quickly helped in coming from different directions **Pic 6, 7 & 8.**	OB3
	…each member agreed to take a task to propagate and remember at least an herb's name and its medicinal uses…	OB3
	…the activity was mainly hands on,	OB3
	…present project's members agreed to pass on the learnt skills and knowledge to the absent project's members.	OB3
	…Pnov2 agreed to take notes of the workshop's proceedings…	OB3
	…learning by doing.	
	Tirikubatsirana nevarimi kuti tivadzidzise kurima, eeeh paproject iyi tirikudyara hedu mavegetables…	ICD4
	Kunyanya tinorima muriwo, cabbage, rape, spinach and tomatoes…	IEO
	...saka ndinogara ndichipindawo mavari tichipanana nguva dzekuti parizvino tinoda kurima chakati time yakati tinorima	IEO

	chakati saka tinongoudzana kuti tichaita ma meetings. *Pakushanda nevamwe parizvino aah ndingangoti hangu ehe unowanawo karuzivo asi vatiri kushanda navo vamwe varikuratidza kuti ruzivo rwacho vanga vasina sevamwe vanhu vanga vagere mumapurazi vanga vasingaite zvemairrigation…* *…tavakuita tiri pachinhu one saka izvozvo zvinoita kuti tiwane njere moto kubva kunevamwe anenge ari panextdoor…* *…madyarire awanga uchiita kana wanga usingagoni uya ari panext newe anogona kuti ugone kutora ruzivo kubva kune uyo ari padhuze.* *…tavakushanda tiri pachinhu pachinzvimbo chimwe chete hatichaiti kuti uyu pake pake zvinopa shungu kuti uyo kunyangwe ari padhuze newe asingadi kuti aite aiitewo kuti kumba kwake agoona zvingamubatsirawo…* Nhengo dzeboka remadzimai dzinofanira kuita misangano kaviri pamwedzi. Nyaya dzese dzinezvekuita neboka remadzimai rebindu dzinofanira kukururururirwa ku bindu zvakadzama kwete kudzimba. Nhengo dzese dzinofanira kushanda pamwechete kuzadzikisa tarisiro inotarisira mubind Zvakadaro nhengo dzese dzinofanira kuno shanda mubindu China chega chega.	IPvc1 IPvc1 IPvc1 IPvc1 Doc GC Doc GC Doc GC Doc GC
Dissonance/ conflicts	This question brought a moment of confusion into the group and raised mixed responses among the members. **P7**, *"…ende ndiani anozomachengetedza*?" **P12**, *"eehe ngationesane vasikana, anombosheyiwa sei maherbs acho nekuti munmwe nemumwe anoda every type murow yake*" **P10**, conclusively advised the group, "*ehe ishuwa iyoyo vasikana nekuti hapana asingamadiwo, munhu wese anotodawo matypes ese emaherbs mumuhomba wake. Saka toita seyi*?" 2 small informal groupings quickly formed one made up of 5 senior members including leaders of the project (ref **Pic 4**) …but, when misunderstandings and doubts arose they always	OB3 OB3 P7 OB3 P12 OB3 P10 OB3

	consulted me for verification, corrections and further inquiry on…	
	…this was evidence when **Pnov1, P10, P6** disagreed on the proper way to propagate the poisonous herb (soapwort),	OB3
	…the thing of introducing the concept of working as a project it can go down well with some or it cant so the women had small conflicts here and there…	OB3
	…to-date they don't report about petty conflicts…	ICD4 P4
	Pekutanga tanga chaipo vamwe vakanga vasina kunzvisisa ne kugutsikana nekuti zvinhu izvi zvaizotibatsira.	ICD4 P4
	...tichiitira kuti tisanetsana nekuti vanhu vaiti tinoda kuenda pachuru nekuti pakaguta saka tikati ngatiite zvemapuri…	IPvc1
Challenges	*...apa ikozvino pangomiswa nekuda kwechando nekuti zvinaana rape zvakato dii zvakarohwa rohwa nechando tikatobvisa…*	IPvc1
	…one major problem highlighted was that of problem animal i.e. goats, hares and birds	IPvc1
		Doc Fr1
Diversity	She invited the AREX officer (EO) to come and facilitate a nursing lesson for them.	OB1
Member composition	Working together as a team marked the nursing process	OB1
	Pic 7 is evident to Pnov 6, who is constitutionally not an active member to the project	OB1
	P7 who articulated that, "itayi muchiziva kuti hatisi tose tinogona kushandidzana. Zviri nani mukati munhu atsare munhu waakasununguka kushandidzana naye	OB1
	…some were novices standing in place of their parents and mother in laws.	OB2
	…other villages they have got over 20 but village 1 had 20 so it was a manageable number…	ICD4 P4
	…they realised the benefit of working together.	ICD4 P4
	...vamwe baba veku3 vatirikushanda navo mukati…	IPvc1
	Boka rebindu richava nevatungamiriri pfumabwe	Doc GC
	aaah hazvinetsi kuona unotarisa pasi muvhu especially kana kwavakudziya saizvozvi kana kutarisa pasi pemashizha	OB2 Pvc1
Deliberations	…were already a small group of 6 people and there were other 2	OB2

	small groups like this one other corners as well…	
	She asked: "*ko maoneyi*?	OB2 EO
	mbuya mugogoda ndochii?	OB2 EO
	inodya muriwo here?	OB2 EO
	ladybird ndochii?	OB2 Pnov15
	Pc1: *Ruzivo moto: madzimai* . (Knowledge women?)	OB2
	All: *rinogokwa* (Is extracted)	
	Pc1 led in most of the activities but with constant consultations with **Pvc1**…	OB3
	"*nhayi vasikana, ko ari kudyarwa seyi uye papi*?"	OB3 Pnov2
	2 small informal groupings quickly formed one made up of 5 senior members including leaders of the project (ref **Pic 4**).	OB3
	…lastly after some deliberations they agreed to dedicate one single bed for propagation process…	OB3
	The group finished preparing the nursing bed, **Pc1** went to consult with **Pvc1.**	OB3
	People also made small gatherings in which **PO1** and **PO2** reported that the participants were trying to identify the herbs and more curiosity was in knowing their uses…	OB3
	…peer inquiry was dominant among the small gatherings…	OB3
	Consultation with much senior members started…	OB3
	they consulted with **Pc1. P6:** "*ko nhayi zvonzwiyi*?" (What shall we do?)	OB3
	Pc1 called in help from **Pvc1.**	OB3
	…resolved through democratic deliberations…	OB3
	…they would deliberate on the topical issue and find a universally agreed solution.	OB3
	the participants met 12 times for an average of 3 minutes per each informal meeting	OB3
Mediation artefacts		
Training	…introduced the members to the donated seedling types and recommendations for companion since there were some onions, peas and various vegetables in the garden (Pic 1, Pic 2)	OB1
	what was most stunning about this teaching method was that it also provided immediate evaluation criteria to asses whether the lesson was understood and people are knowledgeable of the concepts rather than the action	OB1

	EO progressed by teaching how to nurse by demonstrating	OB1
	…gave a general lecture on pests, signs and symptoms of diverse pests and the ultimate signs that can be observed from the plant (Ref: Pic2 & Pic3).	OB2
	ini kuworkshop yandakamboenda takadzidziswa kuti hazvidyi muriwo asikuti zvinotobatsira kudzivirira muriwo kubva kuzvimbuyu.	OB2 Pvc1
	zvanga zvakadii kuti isu tozokupayi date ratinoona kuti tinenge tiripo tese uye imi motouya makagadzirira kutidzidzisa uye kudyara musi iwowo.	OB2 P14
	…and demonstrated to the rest of the group how it is done…	OB3
	…"*because izvi ndinozviziva ndakamboenda kuworkshop yemaherbs ka ini, asi pane makore akawanda*."	OB3 Pvc1
	Tidzidziseyiwo kuti anodyarwa seyi moto demonstrator tionewo I later demonstrated to the group how to propagate the herbs and highlighted the underpinning principles to herbal companion grouping as well as tips to what to look for…	OB3 Pvc1 OB3
	Pc1 and Pvc1 suggested organising another workshop where every member should be present and the workshop should be on herbal identification, labelling and learning on the medicinal and agricultural uses of the herbs.	OB3
	…there are also lessons or informal well they are informal lessons which they are taught by the Arex officer *anditi.*	
	Maybe she shows them, sort of a show and tell this is how you should do your bed…	ICD4 P4
	…through the work-shopping of course that was another way of learning where we had discussions and us presenting on deforestation and poaching where we also used different methods such as role play…	ICD4 P4 ICD4 P4
	…presentations, talks, demonstrations and a lot of methods that are involved…	
	…tingangoti mukubatsirwa nekudzidziswa kuti mhuka inokosha… Vanoratidza kuti varikudzidza nekuti pane pamwe pandinenge ndisipo ndirikure seed youya usipo ndinova instructor kuti nesayi (nursing)…	ICD4 P4 IPc1
	Tinotoita malesson plan tinenge… Ehe nema demostrations	IEO

		IEO
Power relations	The process was characterised by a distinctive division of labour whereby other members were sowing, fetching water and the young watching carefully (ref to Pic 5)	OB1
	The most experienced members took the most cautious roles in the process	OB1
	The process was headed by the committee members but P14 taking the leading role (Pic 10 & 11).	OB1
	She instructed **Pnov2** to construct a nursing bed for herbal propagation whilst **Pnov1, Pnov3** were send to fetch water from the nearby (50m away) dam…	OB3 Pc1
	"role sharing or tasks are usually given according to seniority, experience and nature of the task"	OB3 Pnov1, Pnov3
	Pvc1 took over the task to prepare the nursing bed from **Pnov3**	OB3
	…constitutional authority proved to possess overriding decision and shape of the practise.	OB3
	Project leaders seem to have an overall decision over project proceedings and planning.	OB3
	knowledge gradient was also observed to have a leading role in shaping and organising practice within the project.	OB3
	…our role was work-shopping and bringing them together introducing this concept of working together as a project…	ICD4 P4
	Also facilitating the formation of a management committee of the project and provision of education…	ICD4 P4
	…so right now all we do is to monitor, here and there.	ICD4 P4
	I don't want to fully say its positive in the sense that people might act positively because they know they would come to us for help tomorrow…	ICD4 P4
	…when we go there they say things like *he-e ana mai …….. havazvidi izvi (*don't like this)…	ICD4 P4
	…they already some of the conservation practices we have influenced them to do.	ICD4 P4
	Masimba aripo masimba ndikaashandisa ndikaona vandikunda inini ndoisa kumutemo.	IPc1
	…anenge aramba achiita nharo ndinongomuti tokuisa kwaSabhuku.	IPc1
	Ndinoona kuti ehe paneinfluence ndinokwanisa kuti ndovaverengera	IEO

	We managed to have visual assessment of the progress of the garden. This progress may have been caused by our last visit which could have installed morale to them.	Doc Fr1 Doc Fr2
Indigenous knowledge/prior knowledge	*aah-aah vasikana chiruva ichocho hachiiti. Tarisayi muone chine mhodzi dzirikutodona and chiri poisonous. Mukachisa pamulch chinodonhedzera mhodzi dzacho munursery and dzinobuda dzikauraya matomatoes ese. Chito chirasirayi kure uko" pamusoroyi pane nzira dzakawanda dzimwe dzaisevenzeswa ne madzibaba edu* 1. *tinokwanisa kusevenzesa madota endove kwozoti emuti unonzi chii?... unonzi muhwete nemukamba* *plus futi tichikura taisevenzesa surf kugeza muriwo zvingaita sekunetsa kana wakanda asi zvaitobatsira.* *kwete surf chete kana green bar chairo rinoshanda* "*ini ndine karuzivo kekuti pane mamwe maherbs ari poisonous but mamwewo haasi anotodyiwa ende anotorapa uye achitandavara chaizvo*" …and there is also their own knowledge which they apply. …when we go there they would tell us to pest control you mix this and that blaah-blaah. In some of the beds the ribbon was put to drive away birds.	OB1 P14 OB2 Pvc1 OB2 Pvc1 OB2 P13 OB2 P14 OB3 Pvc1 ICD4 P4 ICD4 P4 Doc Fr1

Appendix 15: Analytical Memo 3

Analytical memo 3

Chipembere CoP as space for social learning						
Categories	Orientation / Exploration	Self awareness	Deframing/ deconstruction	Co-creation/reframing	applying/ experimentation	Review
Coding						

Category	Evidence	Sources
Orientation/exploration	facilitate a nursing lesson for them	OB1
	g) Learn how to do a vegetable nursery	OB1
	h) Put in place a watering duty roaster	
	i) Put in place a guarding duty roaster	
	…of P14 who screamed, "*aah-aah vasikana chiruva ichocho hachiiti*	OB1
	…nhai imi mai vose vakuru kudayi vasingazivi kuti sora iri rinouraya shuwa.	OB1 P14
	, "itayi muchiziva kuti hatisi tose tinogona kushandidzana…	OB1 P7
	"aaah haasi munhu wese anoda kubatirwa mu row yake…	
	…by the Chipembere gardening committee after realising a devastating threat to their vegetable plants and progress as a project.	OB1 P4
		OB2
	…pests' invasions and the most devastating invasion being from the cabbage worm.	
	Extension officer who was to investigate on the pests' type and teach them on biological as well as more sustainable ways to control these pests	OB2
		OB2
	People scattered around investigating on the detrimental pests	
	I saw we were already a small group of 6 people and there were other 2 small groups like this one other corners as well.	OB2
	ok maculprits taaona saka toita seyi kuparadza mapests aya	
	Extension officer to investigate on the real pests and prescribe the best terminating poison or agent.	OB2 P6
	dzikazodyiwawo neshiri idzo dzabva kudya muriwo une mushonga chii chinozoitika kushiri?	OB2 EO
	…"*nhayi vasikana, ko ari kudyarwa seyi uye papi*?"	
	…in few seconds they swiftly made one formal meeting again as shown in **Pic 9**.	OB2
	…from that moment people were too observant and conscious	OB2 EO

	to the Soapwort.	
	…highlighted the underpinning principles to herbal companion grouping as well as tips to what to look for when propagating herbs as shown in **Pic 11, 12, 13 & 14** (see appendix 1)	OB3 Pnov2 OB3 OB3
	…the workshop should be on herbal identification, labelling and learning on the medicinal and agricultural uses of the herbs.	OB3 R
	…lack of consistence from project members	
	…one major problem highlighted was problem animals i.e goats, hares and birds	OB3
	…she noted with concern how people consumed a lot of firewood unnecessarily to cook their meals, everyone relied on firewood since there is no electricity…	Doc Fr1
	But from our side, from a conservation point of view were hoping that if they grow vegetable in the community it will prevent them from poaching for relish.	Doc Fr1 ICD4
	...kwazouya VaZazu apo ndokubva vazouya nechirongwa chekuti miti haitemwi toda kuti tichengetedze zviwanikwa.	ICD4
	...mukati medu manje mune vamwe vasina hanya nekuti muriwo zvawadyarwa unoda kuchengetedzwa.	IPc1
	Mune vamwe vanototi vanobva nemombe kuno kumba otonofudzira. mombe kugarden saka munhu akadaro…	IPc1
	...wire yedu yekugarden haina kuchengeteka zvakanaka inobiw...	IPc1
	...kwozoti pakushanda kwedu manje mugarden kunogwadza kuchera mvura kuvanhu vakuru.	IPc1
	...dambudziko riri pakuti kana tikati ngatiendeyi tinoshanda paya hatiendi nenguva yataurwa chaiyo…	IPvc1
	Haah parizvino riri kufamba apa ikozvino pangomiswa nekuda kwechando nekuti zvinaana rape zvakato dii zvakarohwa rohwa nechando tikatobvisa.	IPvc1

Self awareness	Whilst EO was explaining participants became curious and started to inspect their reserved nursing beds in their respective rows and P6, P8, P12, P14, P18 were predominant of this action	OB1
	…"aah *vasikana ivhu riri mu row yangu ndiro vhudema rakaregedzana, uye paside pe bed iyoyi pane lettuce isinga kanganiswi nemaonions. Saka ini ndingada zvangu kupadyara maonion sezvo asinga dyiwi ne zvitota uye kudaidza zvitota. Plus anozotodzinga mapests akawanda ku lettuce ne peas dziripadhuze*"	OB1 P14
	…Pnov 6, who is constitutionally not an active member…instead she would drop off the watering cans full of water and watch carefully whilst P5 is watering the nursed bed (Pic 6)	OB1
	…until P14 mentioned about the plant and explain that's when she only realised it and took the plant off the garden and was later burnt after the session (Pic 10).	OB1
	Takatombozviona zvimbuyu zvacho ndosaka takakusheedzayi…	OB2 Pvc1
	icabbage, ende inodererwa kubva yasara mapuri puri so.	OB2 Pvc1
	aaah hazvinetsi kuona unotarisa pasi muvhu especially kana kwavakudziya saizvozvi kana kutarisa pasi pemashizha…	OB2 Pvc1
	eeehe pasi pemashizha kunyanya tarisayi pangu muone.	
	…kunze kwekuti tinoziva kuti nemhashu dzinombouya…	OB2 P6
	Plus futi chimbuya mugogoda chinombofamba chaizvo…	OB2 Pc1
	…ini ndinoona sekuti haadyi muriwo asikuti aonovhima zvimbuyu mumuriwo…	OB2 P5 OB2 P14
	ini kuworkshop yandakamboenda takadzidziswa kuti hazvidyi muriwo asikuti zvinotobatsira kudzivirira muriwo kubva kuzvimbuyu.	OB2 Pvc1
	…twakaita setunkoko asi tuchibhururuka tuine macolours akanaka pamapapiro atwo…	OB2 P13
	ok *ndabva ndatuziva ndakatombotuona mugarden munomu…*	
	ndosaka takusheedzayika mudumeni kuti mutibatsire…	OB2 P6
	kuchengetedza zviwanikwa ndiko zvako asi muriwo uchipera here veduwe tozoti takafireyi?	OB2 P5
	Plus futi kuworkshop imwe yandakamboenda takadzidziswa kuti kune maherbs anokwanisa kusevenzeswa kutreater	OB2 P5

	mapests asinga urayi zvimwe zviwanikwa.	OB2 Pvc1
	pamusoroyi pane nzira dzakawanda dzimwe dzaisevenzeswa ne madzibaba edu: 1. tinokwanisa kusevenzesa madota endove kwozoti emuti unonzi chii?	
	plus futi tichikura taisevenzesa surf kugeza muriwo zvingaita sekunetsa kana wakanda asi zvaitobatsira.	OB2 Pvc1
	kwete surf chete kana green bar chairo rinoshanda	
	haaa sure ipapo mareva mukoma vamwe vedu hatisati tambomaona tiinongonzwa nezvawo.	OB2 P13
	…"*nhayi Va Mukwambo ko zvandava nenguva ka idotibatsirayiwo ka. Tidzidziseyiwo kuti anodyarwa seyi moto demonstrator tionewo.*"	OB2 P14 OB2 P5
	…"*ini ndine karuzivo kekuti pane mamwe maherbs ari poisonous but mamwewo haasi anotodyiwa ende anotorapa uye achitandavara chaizvo*"…	OB3 Pvc1
	"*remember kuti herb iri rinospreader zvisingaiti ende riri poisonous plus rino poisoner ivhu paradyarwa*	OB3 Pvc1
	The members also mentioned that they lack seeds but on this one some members observe this to be a problem of dependency syndrome…	OB3 Pvc1
	…from there we realised we needed to meet with the women doing workshop with them about their use of firewood on how, what their action today will affect their future.	Doc Fr1
	…like I said people had already full private gardens but they were not sustainable they way they were managing them…	ICD4
	…only when are discussing when they realise they actually spend a bit of time to go and look for firewood in the bush which means that probably other people coming from other directions…	ICD4
	Saka isu tikati miti zvaisingatemwi toita seyi?	
	…ende gore negore tiri kunetsana nemunhu one mugarden.	ICD4
	…kwozoti pakushanda kwedu manje mugarden kunogwadza kuchera mvura kuvanhu vakuru.	
	Vazukuru variko asi hatisi vese vanavo.	
	Kurudzira tinokurudzira chaizvo asi zvimwe unozoona kuti kutamba nenguva…	IPc1 IPc1
	…paya tikaadyara tirivashoma kusaenda kwedu ikoko ndokurikuita kuti aome.	IPc1

	…anongonzi hameno hawo ndivo vakamagamuchira ndivo vanofanirwa kudir	IPc1
	… nekuti tinotombosvika pakuti tinopererwa pau20 hwedu tinoshaiwa maseeds e dollar $ tiri 20 kumira chaiko kuti tatoshaiwa kudyara tashaiwa mari…	IPc1 IPc1
	Apa handisi kunyanyisa kuzviona zvakanyanya…	
	Ehe, kuitira kuti chero shiri dzirikuuya dzichida kudya dya paya tinenge tichito dzipoisoner saka…	IPc1
	KwaChiundura kusiyana kwakwakaita neiri garden ratinaro ndekwekuti uko yaiva irrigation, pedyo ne irrigation…	IPc1
	…nekuti iri rine ma portion madiki saka ayo ndeekuti kana vachirima vanosevenzesa mablocks.	IEO
	… ndingangoti hangu ehe unowanawo karuzivo…	IEO
	…saka pakutaurirana pakushanda kuti uwane kuti ruzivo ndinogoruwana pane zvakadayi zvakadayi handina kunatso ruwana…	IPvc1
	Eeeh pamastove ndipo pavakatitangira…	
	…kukazouya vekuconservancy vachifamba munzvimbo muno vakaona kuti miti tirikutema ende futi moto yaiuya ichipisa kana wapisa ndikaona garden rangu ratsva ndinotema futi…	IPvc1 IPvc1
	…garden redu riri kusimuka zvakanaka tirikuita tichidzidza sevanhu vakanga vasati vaziwa taingoziva kuita zvokuti uyu zvake zvake.	IPvc1
	Zvikazoonekwawo neveConservancy kuti mava kupedza chii miti muno muchitema, gore ne gore matema chatsva maita zvechimwe moto uya wapisa maita zvechimwe aiwa better tikupe garden remubatanidzwa we project.	IPvc1 FGI P14
	…asi tine zuva rekusangana musi watinenge tichidyara kana kuti musi watinenge tiine musangano.	FGI P14
	nemadyarire ataita kare taingoti pamwe ndodyara ndakadayi…	
	Gore rakapera takadzidyara zvedu asi dzakakurumidza dzakarohwa nechando…	FGI P6
	…ne matsotso stove avo akatidzidzisa kuchengetedza huni ndikange ndiine huni dzangu shoma ndikabamura ndinotopedza vhiki ndichishandisa	FGI P13
	uye kuparadzanisa mbeu, mbesa dzedu.	FGI P6

		FGI P13 FGI P14 FGI P13
Deframing /deconstruction	…took the plant off the garden and was later burnt after the session (Pic 10). *nhayi officer ishuwa here irikutaurwa*? "ok ngatinzwe kune vane muhomba yadyarwa yacho kuti vanoda here?" *Neyi mati cabbage worm*? *saka mazviona here kuti machemicals akanaka asi akashata nekuti munopedzisira mouraya neshiri dzirikuzvifambira hadzo…* *zvataurwa na officer ndinowirirana nazvo…* *…pamwe taitokanganisa regai tinzwe kune vanoruzivo rwakawanda…* *hapana anonzi anoziva nekuti imi matondiudza zvandanga ndisingazivi…* **Pc1** led in most of the activities but with constant consultations with **Pvc1**. This question brought a moment of confusion into the group and raised mixed responses among the members… **P7**, *"…ende ndiani anozomachengetedza*?" **P12**, *"eehe ngationesane vasikana, anombosheyiwa sei maherbs acho nekuti munmwe nemumwe anoda every type murow yake*" **P10**, conclusively advised the group, "*ehe ishuwa iyoyo vasikana nekuti hapana asingamadiwo* …2 small informal groupings quickly formed one made up of 5 senior members including leaders of the project (ref **Pic 4**) **Pc1** took over their agreed solution and consulted with me.	OB1 OB1 R OB1 P14, P8 OB2 EO OB2 EO OB2 Pvc1 OB2 Pc1 OB2 PO3 OB3 OB3 OB3 P7 OB3 P12 OB3 P10 OB3

	…tinokumbirawo kuti mutibatsirewo kupedza gakava riri pano.	OB3
	Pc1 went to consult with **Pvc1**	OB3 Pc1
	…"*ko haasi maherbs ese here? Saka why muchida kuti timagrouper*"	OB3
	Afterwards, **P11, P10 & P7** started to throw each other questions and a lot of fingers pointing towards the herbs started as shown in **Pic 10.**	OB3 R OB3
	…"*nhayi vasikana ndeapi ari poisonous*?" **Pc1** subconsciously shouted, "*oooh Mwari wangu, ndanga ndisingazivi zvese izvi,*"	OB3
	People also made small gatherings in which **PO1** and **PO2** reported that the participants were trying to identify the herbs and more curiosity was in knowing their uses	OB3 Pc1 OB3
	…peer inquiry was dominant among the small gatherings… …but, when misunderstandings and doubts arose they always consulted me for verification, corrections and further inquiry on the medicinal and non medicinal uses of that herb.	OB3
	…when **Pnov1, P10, P6** disagreed on the proper way to propagate the poisonous herb (soapwort), Consultation with much senior members started; firstly they consulted with **Pc1. P6:** "*ko nhayi zvonzwiyi*?"	OB3
	Pc1 called in help from **Pvc2.** "*vasikana ngatimboonesana ndimi munekaruzivo zvoitwa seyi, aah zvinhu zvacho izvi*"	OB3 OB3
	It was evidenced that whenever there was a misunderstanding, problem or a challenge the participants would quickly form informal meetings or groupings and later rejoin as one meeting where they would deliberate on the topical issue…	OB3 OB3 Pc1
	In this observation process the participants met 12 times for an average of 3 minutes per each informal meeting. …but since that was contradicting with sustainable development goals an alternative was suggested…	OB3
	…through the work-shopping of course that was another way of learning where we had discussions and us presenting on deforestation and poaching where we also used different methods such as role play…	OB3 Doc Fr1
	…only when are discussing when they realise they actually	

	spend a bit of time to go and look for firewood in the bush which means that probably other people coming from other directions…	ICD4
	Inini ndiripo pakuti kana tiine basa kugarden ndinotanga ndaunganidza vanhu ndoti munoda kuti tiite seyi?	ICD4
	Ndikataura chinhu vakasandinzwisisa ndinovaunganidza ndoti kusandinzwisisa kwenyu kunoda kuti ndiite seyi tovhara garden here?	
	…mutemo chaiyo inotoveko yekuti kana uchitema chero uchitema dhara iri unototanga wataura kuna chairman, chairman wosvitsa kuna Sabhuku zwozivikanwa kuti urikunotema matanda…	IPc1
	Aah uyoo mutemo inotochengetedzwa kana mhuka chaidzo tinotopesana nadzo nguruve ne mhofu dzichitoita madiro kuminda kwedu…	IPc1
	…tine masoils anenge achikwanisa kunge akasiyana saka ndinonge ndichivadzidzisa kuti…	IPc1
	…ku follower wo mainstructions vakaramba vakadaro zvinoramba zvichienderera mberi.	IPc1
	…chekutanga ndinoti pamushonga yatinotreatisa pamapests ndochekutangisisa ichocho.	IEO
	Ehe, kuitira kuti chero shiri dzirikuuya dzichida kudya dya paya tinenge tichito dzipoisoner saka…	IEO
	…asi vatiri kushanda navo vamwe varikuratidza kuti ruzivo rwacho vanga vasina sevamwe vanhu vanga vagere mumapurazi vanga vasingaite zvemairrigation.	IEO
	…nekuti kuirrigation kwandaishanda kwaiva ne ruzivo rurimberi kudharika apa.	IEO
	Handizivi kuda pakudyara kwatanga tichiita kumagarden umu achiri ma one one,paya paya kuda vanhu vaionawo…	IPvc1
	Musiyano uripo nekuti tavakuita tiri pachinhu one saka izvozvo zvinoita kuti tiwane njere moto kubva kunevamwe anenge ari panextdoor…	IPvc1
	Vaingofunga kuti zvinhu zvataimira tiri one one, asi takaona kuti zvinhu zvakatibaetsera nekuda kwekuti tavakushanda tiri pachinhu pachinzvimbo chimwe chete…	IPvc1
	…kuti uyu pake pake zvinopa shungu kuti uyo kunyangwe ari padhuze newe asingadi kuti aite aiitewo kuti kumba kwake	IPvc1

	agoona zvingamubatsirawo.	
	Takadzidza asi sechinhu chinongoita neseason yachona nguva yacho yekuti mwedzi miviri iyoyo june na july ndeyekuti chando chinorova…	IPvc1
	Segarden redu riri padhuze ne pachiyi nepadam paya paya chando chinodii chinowandisa…	
	Aaah zvirikutibatsira parizvino kuti titi zvanyanya kuti batsira asi kuti zviri kutipa kuti tinogona kuramba tichicontinuer tichienda mberi…	IPvc1
	Aaah pagarden iko zvino hatichazivi nekuti tavane ruziwo rwekudii kuti tichienda mberi…	IPvc1
	…vakabva vatanga kutidzidzisa kuti hongu magarden enyu aya akanaka asi murikuparadza ndokubva vatidzidzisa zvokuti tiite garden remubatanidzwa…	IPvc1
	…nekuti zvatinenge tichidyara zvinofanira kunge zviri uniform.	IPvc1
	uye vakatidzidzisa kudyara takaita uniform tiri tega taingoti chero zvazvaita.	IPvc1
	…saka iyezvino tavakuziva kuti mudhumeni anoda macentimetres akati kuti tidyare muriwo wedu.	FGI P14
	…ne matsotso stove avo akatidzidzisa kuchengetedza huni ndikange ndiine huni dzangu shoma ndikabamura ndinotopedza vhiki ndichishandisa.	FGI P13
	…nekuti isu taitoti dayi ndine zidanda gobvu ndoriisa panze apo pastove yangu yesimbi mhepo nyamgwe ikaita asi ndaiwawarira kuti poto yangu i ibve ndichiwedzera dzimwe huni.	FGI P10 FGI P6
	tichingotututira, moto uchingopera.	
	iyezvino nekutiudza kwavakaita takaita zvimastove izvozvo zvinochengetedza ndinotobika zvinoibva netuhuni tushoma shoma ndisinagiti dambudziko	FGI P14
	Takasangana neruziwo rwekuti ruzivo rwataiti haa rwanga rwuri kure nesu…	FGI P13
	Kudyara takanga tichiziva kudiridza takanga tichiziva asi takanga tisinganyanyoziva kuti tinofanira kudyara seyi	
	uniform ndiyo inouya namudhumeni kuti itayi zvimwe chete nguva imwe chete.	FGI P6 FGI P13

		FGI P14 FGI P13 FGI P6
Co-creation/ reframing	Working together as a team marked the nursing process "ko vakasazo dhiridza zvinhu zvotsvira mahara hazviiti ngatingoita seproject" …they resorted to choosing people they are willing to work with… Nyaya dzese dzinezvekuita neboka remadzimai rebindu dzinofanira kukururirwa ku bindu zvakadzama kwete kudzimba *…because rinodya sweet cabbage plus futi tariwana muma cabbage chete.* *Isu tinoda kuti tidzidze tose* *handizivi kuti munokwanisa kuti tsvagirawo here*? *…zvanga zvakadii kuti isu tozokupayi date ratinoona kuti tinenge tiripo tese uye imi motouya makagadzirira kutidzidzisa uye kudyara musi iwowo…* …lastly after some deliberations they agreed to dedicate one single bed… Furthermore, if the herbs flourish they agreed to find sometime to transplant them into individual beds. …she was seconded by **Pnov1, P9** and **P10** and they all agreed they have learnt a knew thing People also made small gatherings in which **PO1** and **PO2** reported that the participants were trying to identify the herbs and more curiosity was in knowing their uses. …peer inquiry was dominant among the small gatherings… Most of the dissonances were resolved through democratic deliberations and co-creation of meaning and decision was evidenced. …and find a universally agreed solution. I think the have learnt how to resolve… And the best thing which I can say personally which came	OB1 OB1 OB1 Doc GC OB2 P6 OB2 PO3 OB2 Pc1 OB2 P14 OB3 OB3 OB3 OB3 OB3 OB3 ICD4

	from there is they realised the benefit of working together…	ICD4
	…ivo vondiudza kuti ikozvino tinoda kuti tiite zvakati ini ndoti ngatichiiteyi.	
	…kana muchikwanisa kuita sevillage one mukagona kubatana…	IPc1
	…but ipapo taive tada kuita mushandira pamwe wekuchengeta huku…	IPc1
	Ini ndinozoriisa muvanhu…	IPc1
	…vanhu ndivo vanoita zvavanoda naye nekuti ini ndoga handina chandinokwanisa kuita.	IPc1
	…ngatiregeyi kuita usimbe tirambe tichingorima	IPc1
	Haa kutaura vanhu vanotaura zvogadzigwa…	
	Tirikubatsirana nevarimi kuti tivadzidzise kurima,…	IPc1
	Kushandira pamwe ndokumwe kunodiwa…	IPc1
	Ehe, saka vakangove nekubatana kwekuti parizvino tinoda kudyara chakadai…	IEO IEO
	Musiyano uripo nekuti tavakuita tiri pachinhu one saka izvozvo zvinoita kuti tiwane njere moto kubva kunevamwe anenge ari panextdoor…	IEO IPvc1
	…kuti uyu pake pake zvinopa shungu kuti uyo kunyangwe ari padhuze newe asingadi kuti aite aiitewo kuti kumba kwake agoona zvingamubatsirawo.	IPvc1
	…aiwa takasvika pakugara tikataurirana nevaya vaya vene vemarows vanga vagara vakanhonga…	
	Nhamba inoita kuti isaita nharo pasaita gakava…	IPvc1
	Saka ndozvakazo tauurirana vakava nekutenderana nazvo…	
	kazhinji zvinhu zvatinoita mugarden medu imomo tinoita na vamudorman saka vanotiudza kuti iyezvino ngatiiseyi ichi apa, ichi apa.	IPvc1 IPvc1
	…kudzidza kwatiri kuita ndekwekuti rinotibatanidza.	FGI P13 FGI P13
Applying/experimenting	…she then instructed all garden members to join and assist the owners of the 10 selected nursing beds.	OB1
	…other members were sowing, fetching water and the young watching carefully (ref to Pic 5)	OB1
	The most experienced members took the most cautious roles	OB1

	in the process…	
	…P5 sow the nursery whilst Pnov6 fetched water to water the nursed bed and she was also present when members were taught the proper way to water…	OB1
	EO instructed: *veduwe munhu nemunhu parow yake wotarisa kuti hapana here tuzvimbuyu pamuriwo wenyu.*	OB2
	pamusoroyi pane nzira dzakawanda dzimwe dzaisevenzeswa ne madzibaba edu: 1. tinokwanisa kusevenzesa madota endove kwozoti emuti unonzi chii?	OB2 Pvc1
	plus futi tichikura taisevenzesa surf kugeza muriwo zvingaita sekunetsa kana wakanda asi zvaitobatsira.	OB2 P13
	kwete surf chete kana green bar chairo rinoshanda	OB2 P14
	She instructed **Pnov2** to construct a nursing bed for herbal propagation whilst **Pnov1, Pnov3** were send to fetch water from the nearby (50m away) dam for watering…	OB3 Pc1
	…"role sharing or tasks are usually given according to seniority, experience and nature of the task"…	OB3 PO2
	After agreeing on a single bed **Pvc1** took over the task to prepare the nursing bed from **Pnov3** and demonstrated to the rest of the group how it is done	OB3
	…the activity was mainly hands on	
	In some of the beds the ribbon was put to drive birds away.	OB3
	And to set up our role was work-shopping and bringing them together introducing this concept of working together as a project.	Doc Fr1 ICD4
	...learning by doing and there are also lessons or informal well they are informal lessons which they are taught by the Arex officer *anditi?*	ICD4
	Maybe she shows them, sort of a show and tell this is how you should do your bed, arrange in certain way…	
	there is also their own knowledge which they apply	ICD4
	…but they got their own methods which they were applying in the garden, when we go there they would tell us to pest control you mix this and that blaah-blaah.	ICD4 ICD4
	eeeh paproject iyi tirikudyara hedu mavegetables…	
	Kunyanya tinorima muriwo, cabbage, rape, spinach and tomatoes.	IEO
	Vanokwanisa kunurser ndisipo nekuti zvese izvozvo	IEO

	vakazvidzidza saka vava kukwanisa kuzviita chero ndisipo.	
	Senge semunzvimbo one imomo tinenge tiine churu saka ndinenge ndichivadzidzisa kuti vaise churu pariweak paya kuti ivhu racho ri improve.	IEO
	…kuda sekuti tikawanawo ma herbs, tichaedza kuti tichimashandisa imomo torega kusevenzesa machemimicals.	IEO
	…toshandisa maherbs ayaya.	
	…uya ari panext newe anogona kuti ugone kutora ruzivo kubva kune uyo ari padhuze.	IEO
	Saka manje ipapao takanga tatombomira vanhu takato seeder maseeds arimo mugarden…	IEO
	…patinosangana pese mugarden kazhinji tinenge tichidiridza kana kudyara mbeu yatinenge tichifanirwa kudyara ipapo…	IPvc1
	…tinonyanyo dyara muriwo wakaita se toti madomasi, rape, cabbage ne spinach ne beans.	IPvc1
	ehe tine maherbs atinawo arimo mugarden, ndiwo atinoda kuti tienderere mberi kuti tirambe tichidyara maherbs iwawo.	FGI
	aiwa tinoti kana nursery yadyarwa zviya painenge yakura chairwoman vanototiudza kuti nhasi tiri kunosima.	FGI P13
	…iyezvino nekutiudza kwavakaita takaita zvimastove izvozvo zvinochengetedza ndinotobika zvinoibva netuhuni tushoma shoma ndisinagiti dambudziko.	FGI P14
		FGI P13
		FGI P13
Review	*anditi tazvionera togaka zvandamboreva nguva dziya saka gonye redu rinonzi chii?*	OB2 EO
	She was also tasked to write down the workshop report and be filled.	OB3 Pnov2
	To monitor the project and also for progress evaluation	Doc Fr1
	Our visit to the site was of great importance because we managed to have a visual assessment of the progress of the project.	Doc Fr1
	To assess progress being made in the garden.	Doc Fr1
	This progress may have been caused by our last visit which could have instilled morale in them.	Doc Fr1

	…so right now all we do is to monitor, here and there…	ICD4
	Kugashira dzidziso yavepo change…	IEO
	…wangosara muriwo murefu nesweet cabbage nemaonions.	IPvc1
	…mudorman wedu kutaura chokwadi ka kutidzidzisa kwacho anouya pamunenge muchiuya kana kukanzi kune mavisitors…	IPvc1
	…iyezvino nekutiudza kwavakaita takaita zvimastove izvozvo zvinochengetedza ndinotobika zvinoibva netuhuni tushoma shoma ndisinagiti dambudziko.	FGI P13

Appendix 16: An example of colour coding in practice

ICD4 analysed for Analytical memo 1

<table>
<tr><td rowspan="3">Categories</td><td colspan="7">Contextual profiling of the Chipembere Gardening Project</td></tr>
<tr><td rowspan="2">Community composition</td><td colspan="6">Emergence of the gardening</td></tr>
<tr><td>Main objectives</td><td colspan="4">Factors influencing the development</td><td>Benefits accrued</td></tr>
<tr><td>Coding</td><td></td><td></td><td>Unsustainable practices</td><td>External Mediation
training</td><td>New Sustainable initiatives</td><td>Constraints to the emergence</td><td></td></tr>
</table>

Interview with P4

Interview code **ICD4**

Audio: **voice 0105**

Date: 22 June 2012

R: Shall we start

P4: It's fine

R: I will be recording, I will do an audio recorded interview. So I will be asking you some few questions on Chipembere community garden.

P4: Ok

R: Can you introduce yourself and organisation in briefly

P4: Mrs. …… from Sebakwe Conservation and Education Programme (SCEC)

R: And aaah can you tell me in short how the Project started

P4: It started after a research on women & biomas then whilst doing a research we had a student who was actually running the research then she noted with concern how people consumed a lot of firewood unnecessarily to cook their meals, everyone relied on firewood since there is no electricity from there we realised we needed to meet with the women doing workshop with them about their use of firewood on how, what their action today will affect their future. Then as an incentives to get them interest in our proposed project on improved *tsotso* stoves we promised that everyone who has got a improved stove will mean that we will help them to establish a community garden since we new vegetables are a problem. But from our side, from a conservation point of view were hoping that if they grow vegetable

in the community it will prevent them from poaching for relish. So that's how the whole project started, the actual project was improved stoves, the garden was an incentive for the improved stove

R: Ok. So why aaah was it specifically for Rockvale village 2?

P4: It's actually village 1

R: Village 1?

P4: Yaah. We were already involved with Rockvale in various projects so it was a community we knew, the proximity to the centre in terms of monitoring and evaluation the initiative was another thing then the third thing was the number of households in the village was small such that we could work with the whole village. If you go to other villages they have got over 20 but village 1 had 20 so it was a manageable number. And our long term plan was to spread this improved stove throughout so you start small and grow big, so that is why we chose a small village close-by.

R: So what role do you play in the running of the project

P4: Initially because this project, I don't want to say it was a brain child of us the centre ours was on the improved stove but people had already their own private individual gardens to show that they really needed a garden it could be us trying to consolidate their project which was there. And to set up our role was work-shopping and bringing them together introducing this concept of working together as a project. Also facilitating the formation of a management committee of the project and provision of education and a greater part of the resources but that was at the establishing of the garden. As time went by we just like withdrew so that we wanted it to be self sustaining suppose the centre wakes up closed we want the garden to go on so right now all we do is to monitor, here and there we donate seeds and other things of need but basically they run the project on their own.

R: Maybe taking you back to the establishment or developmental phase of the project. What problems or constraints did you face?

P4: us as a centre or what we noted the women were facing?

R: Yaah first as a centre and last on the women

P4: As a centre is basically all the problems in Africa "money" you would want to have a big project but you would want to fund that to have a nice fence, watering cans etc. so that is our main issue but for the women because like I said people had already full private gardens but they were not sustainable they way they were managing them and the thing of introducing the concept of working as a project it can go down well with some or it cant so the women had small conflicts here and there in terms of who is suppose to have their beds where and other things like that. And then other challenge that the project faced was of pests attacking their crops and then of course they thought because we said we will fund them they thought we will continue doing that. So there was a time if you go to the garden there was nothing but we left it like that up until they organised themselves donated a US $1 each bought something and they picked from there. So most of the problems besides of pests emanated from lack of resources.

R: Maybe referring back to challenges maybe arising from the women working together how did you dealt with them?

P4: We left them like that

R: And how did dealt with them?

P4: We don't know we just found things moving off. But initially they would come and report and then all off we could not say to people we are not coming we would promise to go there and we wouldn't go. And they would come and report again and so from that time I think it was around 2007, 2008 there about to-date they don't report about petty conflicts like they were at the beginning I think the have learnt how to resolve because we wanted really to, not to alienate but to make it self-sustaining project with minimum influence.

R: Maybe to ask a little bit, aaah when was the project started?

P4: Right I'm not sure if you are focusing like on the garden only.

R: No on the whole project

P4: On the whole thing

R: Yaah the whole thing

P4: Because this girl started doing her research in 2007 and we only started doing the first workshop with the women in 2008.

R: Ok

P4: Yaah. So in terms of work-shopping and talking about deforestation and what it should be in 2008

R: But now that the garden is up and running what impact can you really see in relation to environmental conservation that you can actually see?

P4: It depends if you really want to call it environmental conservation but if we look at the main thing that cause people to poach or sore firewood clear more land which all result in different environmental problems because they want to earn a living. So the garden somehow it has provided 1. Time such that you don't have much time to poaching 2. Whilst its not much because it subsistence there are no vegetables basically in the whole area so its only one garden in the whole ward, so the market for vegetables is there whether they sale them for R5 or a $1 but it's a R5 extra which they did not have. And the best thing which I can say personally which came from there is they realised the benefit of working together and then they started a chicken project, they want to start a sewing project right now they are already doing a piggery because they have two pigs and all those are like babies from the garden project.

R: So maybe…, so they are learning! How are they learning?

P4: By doing

R: Learning action approach

P4: No, please learning by doing and there are also lessons or informal well they are informal lessons which they are taught by the Arex officer *anditi*. Maybe she shows them, sort of a show and tell this is how you should do your bed, arrange in certain way or take certain particular crop after that one. So there are various learning methods there and then through the work-shopping of course that was another way of learning where we had discussions and us presenting on deforestation and poaching where we also used different methods such as role play. We would role play them in terms of how they collect firewood, how long they take and only when we are discussing when they realise they actually spend a bit of time to go and look for firewood in the bush which means that probably other people coming from other

directions are also coming to look for the same resources and what it means for tomorrow. So with that presentations, talks, demonstrations and a lot of methods that are involved and there is also their own knowledge which they apply. I don't want to call it indigenous knowledge, but they got their own methods which they were applying in the garden, when we go there they would tell us to pest control you mix this and that blaah-blaah.

R: So basically how do you position or your organisational input has affected/ influenced their practice

P4: What do you mean?

R: I mean your position as a director or your organisation coming from a conservation & environmental education setup. How does this influence their practice?

P4: I don't want to fully say its positive in the sense that people might act positively because they know they would come to us for help tomorrow so when we go there they say things like *he-e ana mai …….. havazvidi izvi (*don't like this) because they know what we expect and I'm not sure if they do it because its right or they do it because ……'

R: they want something

P4: Yaah but they already some of the conservation practices we have influenced them to do like this thing of fencing and then they would cut down trees and then we gave them vertiver grass instead of cutting down trees which will defeat the whole purpose of the garden, so some of the things they same as the stoves there are some who got hooked

R: I was going to ask about the stoves again

P4: Yaah some got hooked to the stove and some use the stoves when we are coming Yaah.

R: So basically what advice would you want to give to the project members to sustain the benefit they are getting like now or to improve on the benefit they might also get?

P4: Like how they can improve their project?

R: Yes.

P4: In terms of resources I think they can only get as much as they give the less they are committed they then the small the garden remains and this is the advice we had already given because I know earlier this year when we went there time of farming, farming takes precedent and there is no one going to the garden but they need the garden so it will be good to get their priorities in order and also to appreciate that their garden benefits them and not us. So it is more of commitment to that but, I'm sure by starting other projects they have seen the benefits.

R: This is the end of the interview, thank you very much.

P4: You are welcome.