



**For Better *and* for Worse?**  
*A Gender Analysis of the Jhabla Watershed,  
a Community Based Natural Resource Management Initiative.*



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# Abstract

Watershed projects are one example of a decentralization trend, where the entire community is supposed to be involved in planning and implementation. Watershed projects are often considered a success for the environment treated, and often lead to an increased income for those living in the watershed areas. The specific aim of this thesis is to study the potential gender-specific direct and indirect effects of a community based natural resource management initiative in rural Rajasthan, India. A mix of different analytical frameworks was used; feminist political ecology constitutes the overall framework and is complemented by gender analysis tools. These frameworks were used to guide the analysis and to examine three specific areas, namely 1)how the introduction of the watershed project may or may not have affected gender roles 2)how benefits and burdens are distributed within the community and 3)how gendered power relations are demonstrated within the watershed-context. The WSD has resulted in an increased work-burden and time-poverty for women but also important benefits such as increased productivity, an increased opportunity to send children to school and increased incomes. However these benefits are not equally shared and divided among men and women in the community; women are the ones typically being left out.

Key words: *Gender, Gender Roles, Gender Relations, Decentralization, CBNRM Watershed, Seva Mandir, India*

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## *Abbreviations*

CBNRM	Community Based Natural Resource Management
FAO	Food and Agriculture Organization
FPE	Feminist Political Ecology
GAD	Gender and Development
GED	Gender, Environment and Development
IFAD	International Fund for Agriculture Development
IGWDP	Indo-German Watershed Development Programme
NABARD	National Bank for Agriculture and Rural Development
NGO	Non-Governmental Organization
PRA	Participatory Rural Appraisal
SHG	Self-Help Group
SL	Sustainable Livelihoods (Approach)
ST	Scheduled Tribe
UN	United Nations
VWC	Village Watershed Committee
WED	Women, Environment and Development
WID	Women in Development
WSD	Watershed Development

# 1 Introduction

Development intervention thinking is at a crossroads; over the last decades it has become largely focused on decentralization and ownership of projects has often been transferred to the communities targeted. Community based natural resource management (CBNRM) has been increasingly recognized as a way of decentralizing development interventions and programs in order to better adapt to local conditions and achieve intended goals (Adhikari 2001:9-10). Focusing on smaller units such as a community, is considered a way of increasing sustainability twofold; by ensuring local participation, the project will continue as long as the community benefits and environmental sustainability as involved actors recognize the importance of ensuring sustainability during usage of natural resources (Cohen et al 1981:105). Local participation is according to several researchers a prerequisite for successful decentralization (Cohen et al 1981:105, Agarwal & Ribot 1999:4, Bardhan 2002:194, Dressler et al 2010:5, Ribot 1999:29) and this has resulted in that gendered power relations and women's participation has gained recent attention in relation to decentralization and CBNRM (Meinzen-Dick & Zwarteveen 1998:337). Despite the rhetoric on women's participation in different CBNRM initiatives women's actual participation is minimal. By not ensuring women's effective participation in CBNRM initiatives the sustainability of such projects is threatened (Meinzen-Dick & Zwarteveen 1998:337 and Agarwal 2001).

Important aspects such as examining how benefits and burdens from projects focusing on natural resource management may be borne unequally are often lacking in both planning and evaluation phases of development projects. Smaller units of analysis have been introduced as a way of ensuring lasting and positive outcomes from CBNRM interventions, but they may become generalized and categorized as "the poor" or "the marginalized", not specifically examining where the unequal effects stem from (Palanisami & Kumar 2004:11-12). The focus on participation of the community in CBNRM projects may overlook what the actual effects of such interventions are or may become for the individuals making up the community. Despite the increasing recognition of women's crucial role in development and that gender has become a key variable in development initiatives, gender analysis within CBNRM has only recently gained attention (Torri 2010:3). There is only limited research on the gendered



direct effects of CBNRM initiatives such as watershed development programs<sup>1</sup> (WSD) despite the major impacts these might have on the people affected.

This thesis focuses on a CBNRM initiative in northern Rajasthan in India, namely a watershed called the Jhabla watershed, which covers two villages; Jhabla and Mordungri. WSD projects are generally considered a holistic way of addressing both natural resource aspects and problems of economic and social character found in the communities, since they simultaneously address environmental and social issues. The idea is that as the environment recovers or becomes utilized in a better manner, the humans living within the watershed area will also benefit and experience improved livelihoods. Livelihood improvement stems from improved household and community economy and people's possibilities of participation in society and enjoying increased access to resources.

The Jhabla watershed has been implemented using clear guidelines of inclusion of both men and women, and also recognizes some gender-specific needs during planning and implementation, such as the introduction of micro-finance self-help groups (SHG's) for women, representation of women in the village watershed committee (VWC) and introducing income generating activities in the village to reduce migration for work of the men in the area (IGWDP 1992). Including gender and gender-specific interventions is recognized as crucial in order to ensure the project's success, and is mentioned as vital both during planning and implementation phases of the Jhabla watershed. Development planning in general has recognized gender as being of vital importance to consider when implementing projects in order to ensure sustainable development interventions (Torri 2010:3), and has therefore been chosen as the central focus and lens of this thesis. Gender will in this thesis be synonymous with the definition provided by UN Women<sup>2</sup>.

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<sup>1</sup> A watershed is an independent hydrological unit. It refers to the entire upstream topography around a defined drainage channel which feeds water to the lands below (NABARD 2006:8). Watershed development strives for a balance between demand and use of natural resources so that they remain sustainable over time. (NABARD 2006:8).

<sup>2</sup>Gender refers to the social attributes and opportunities associated with being male and female and the relationships between women and men and girls and boys. These attributes, opportunities and relationships are socially constructed, they are context/ time-specific and changeable. Gender determines what is expected, allowed and valued in a woman or a man in a given context. In most societies there are differences and inequalities between women and men in responsibilities assigned, activities undertaken, access to and control over resources, as well as decision-making opportunities (UN Women 2001).

## 1.1 Purpose and Research Questions

As gender is recognized as an important variable, but seemingly only considered in planning and implementation phases, this thesis examines what happens once a CBNRM initiative is considered in place and already a well-functioning project. The specific aim is to understand the potential gender-specific direct and indirect effects of the introduction of a CBNRM initiative in an area in rural Rajasthan, namely the Jhabla watershed. While the focus is upon adult men and women, in some cases children are mentioned and in rare cases divided into boys and girls, in order to demonstrate how gender roles can be deeply rooted in society and throughout life. Both men and women have participated in the study in order to ensure gender does not become synonymous with women. Gender roles will be defined *as the behavior, tasks and responsibilities that society considers appropriate for men, women, boys and girls* (FAO 2014), whereas gendered power relations will be defined as: *the complex system of personal and social relations of power through which gender roles are created and maintained and through which men and women gain access to power and material resources or allocated status within the society* (IFAD 2000:4).

The focus will lie on examining gendered access and control of resources as well as how potential benefits and burdens stemming from the watershed development project are distributed in the watershed area. It is against this background and aim the following research questions will be examined:

1. *How have the CBNRM activities affected gender roles in the watershed area?*
- 2a. *How is the potential work-burden from the CBNRM shared and distributed within the community?*
- 2b. *How are the benefits stemming from the CBNRM shared and distributed within the community?*
3. *How are gendered power relations demonstrated within the CBNRM-context?*

By answering these questions it is our sincere hope to contribute to the overall debate and to fill the knowledge-gap that exists in the decentralization debate regarding understanding the gendered effects of CBNRM.

## 1.2 Disposition

The following section provides a background to the problem studied, it is followed by an examination of the debate and previous research on the area. The analytical framework used in the study is presented in section 4 and is followed by a description of the methodology and the methods applied, which can be found in section 5. In section 6 the analysis is presented and the thesis ends with concluding remarks in section 7.

## 2 Background

This section describes the history and characteristics of watersheds and watershed development in India and describes how gender and gender roles relate to these natural resource management issues. A more thorough description of the local context in which this particular study has taken place can be found in section 6.1 in the analysis.

### 2.1 Watershed development in India

Increasing decentralization of responsibilities for management of natural resources to the community level has become a trend over the last decade and the watershed development programs supported by the Indian Government are one example of this (Turton 2000:7). Despite the attention and funding given to WSD interventions there is a limited understanding of the overall effectiveness of WSD programs, how they contribute to poverty alleviation and human welfare (Gray and Srinidhi 2013:3).

Apart from the need for water for domestic use, India is in need of large quantities of productive water for agriculture as the country has a large rural population dependent on agriculture for sustenance. Many households in India depend on rain fed agriculture; however the degradation of these areas through overuse has the potential to become an environmental and social hazard (NABARD 2006:4). Rain-fed agriculture is in India characterized by low production, poverty and degraded natural resources, such as land and soil degradation (Palanisami & Kumar 2004:1); about 174 million ha of India's total 329 million ha are affected by land degradation, the major cause being water erosion and unskilled usage (Arya 2007:2000).

Integrated and participatory WSD has emerged as a solution to these problems and as a way of providing productive and domestic water as a foundation for rural development in the arid and semi-arid areas of India (Arya & Samra 2007:2). The expansion of WSD programs is a policy response to the increasing environmental crises and unsustainable agricultural practices in the dry regions of the world (Arya 2007:200).

## 2.2 The history and characteristics of WSD in India

In India, the government has taken steps to mitigate the wanting water situation by implementing policies aimed at improving water availability and water conservation through the creation and support of watershed projects (Raha, Osbahr and Garforth 2012:19).

Watershed development programs in India began in the 1970's as a way to address food security and rural poverty in India's rain-fed areas. The interest in WSD programs was spurred by the production limits of agriculture presented by India's green revolution. The rain-fed areas in India represent almost 65 percent of the cultivable area of the country and 55 percent of agricultural production. Despite this rain-fed areas are less productive than irrigated ones, with a crop yield at about a third of the national average. Some of the reasons behind this low productivity are delayed, insufficient and erratic rainfall patterns. These regions are also characterized by hilly and undulating terrain which makes large scale irrigation difficult to implement, they are also subject to severe degradation due to deforestation and unsustainable agricultural and livestock practices. The people inhabiting these areas are some of India's poorest, with insufficient access to education and markets to sell their agricultural produce (Gray and Srinidhi 2013:3).

Most WSD projects are implemented with the dual objective of natural resource management and improving the lives of the rural poor. In India, watershed projects are considered to provide opportunities that are sustainable over time for income and food security through diversification of livelihood options and enhanced productivity primarily of agricultural goods. In the late 1980's there was a growing awareness that WSD is about more than maintaining or improving the productivity of natural resources. The guidelines issued by the Ministry of Rural Areas and Employment are an example of this, where multiple objectives are covered including:

- Productive
- Social (employment opportunities and development of other economic assets in the villages)
- Ecological/environmental
- Equity

(In Turton 2000:9)

A watershed in its ecological definition is an area from which all water drains to a common point. WSD aims to capture water during rainy periods for subsequent use in dry periods and to conserve soil moisture for rain-fed agriculture (Kerr 2002:1387). WSD programs recognize that the people living in a certain area and the environment are interdependent. In India and Rajasthan this means that a degradation of the environment results in a degraded quality of life for the people who are dependent on the environment to different degrees for sustenance (NABARD 2006:8).

### 2.3 Gender and WSD in India

Implementing organizations and funders such as the Government of India recognize that watershed activities carried out in India should be sensitive to issues such as gender and caste and aimed at empowering the community and improving the livelihood of all persons, especially women, and communities living in the same watershed area (Government of India 2008:10). The literature that exist on gender and WSD is focused on watershed management, analysis of the situation, problem definition, decision-making and planning, implementation and the importance of including women in these steps of the process. Little is however mentioned of how physical labor, potential gendered direct and indirect effects stemming from the watershed implementation are demonstrated and shared intra-household and in the community as a whole (Hope 2007; Kerr 2002).

Watersheds are often a success environmentally and often result in an increased income of people living in the watershed areas, it has however been pointed out by several authors that benefits might not be equally distributed. This sort of unequal distribution of benefits is often discussed in terms of rich/poor, upper/lower reaches of a watershed area, and considered to hit harder against marginalized and lower caste people, but little is explored through a gendered lens. Women especially may suffer the same exclusion as poor and marginalized, but with the

added burden of gender roles attributed to women in rural India's often very patriarchic societies, community structures and household norms (Palanisami & Kumar 2004:11-12).

In the northern parts of India, rural men progressively seek off-farm employment in urban centers and daily migration is common. This phenomenon leaves the women to care for the agriculture resulting in a feminization of agriculture and of natural resource management. This development is increasingly becoming common in India and South Asia. Women's involvement in natural resource management is significant and increasing, however there is still a lack of understanding of women's roles in sustainable resource management and the gendered outcomes of CBNRM initiatives (Udaphyay 2005:224).

### 3 Previous Research

This section covers the main research on decentralization in a natural resource context and the linkages to CBNRM. It also includes the most important works on WSD in India and the main themes in this literature. As is shown here, CBNRM literature and research recognizes the need to include a compilation of issues, but is however largely focused on how effects stemming from CBNRM interventions are connected to environmental issues. There is only limited research when it comes to the direct and indirect effects of WSD activities on women, men and gender roles. However, the literature that includes gender and CBNRM is introduced in the last part of this section, where it is proposed that this literature focuses on *gender and participation* in a CBNRM and WSD context, but omits other potential approaches to the issue. Gender and participation are however major concepts in this thesis and the literature is therefore deemed important for the aim and research questions posed in this thesis.

#### 3.1 Decentralization and CBNRM

According to Ribot (1999) the developmentalist view of the state in the "third-world" changed from a progressive force of change to be seen as hindering development during the 1980's. The new views emerged from a long history of frustration with failed top-down approaches (Ribot 1999:27, Agarwal & Ribot 1999:1). Since the early 1980's decentralization has emerged as a political and economic goal in many developing countries. The underlying reasons for this being increased efficiency, equity, greater participation and responsiveness of

government to citizens and as a way to address sustainability problems (Agrawal & Ribot 1999:1, Cohen et al 1981:35 and Agrawal & Ostrom 2001:485). The arguments behind decentralization being more effective arise from the perceived failure of central bureaucracies to adequately account for wide variations in geography, economic and social conditions and the needs and preferences of specific sub-groups of the population. It is argued that governments will be able to perform more efficiently if they have a close understanding of widely varying local conditions and that this understanding can only be obtained through first-hand knowledge from the local level (Cohen et al 1981: 36-38). It is also argued that decentralization is the answer to sustainability problems since it is perceived that when local actors are involved in decision-making regarding natural resource management they invest resources such as time in ensuring sustainable utilization of the natural resources (Cohen et al 1981:105).

Decentralization exists in two broad forms; *devolution* or *deconcentration*. *Devolution* means that state assets or powers are entrusted to other actors, local or private decision-making bodies for example; local governments, NGO's or private individuals and corporations. This means that these actors have the authority to make decisions and to take action independently of the central administration of the state. When local branches of the central government are delegated powers it is called *deconcentration* and it is used to bring the government and its services closer to the population. Deconcentration entails that the local branches are responsible and accountable to the central government and that the central government has the right to supervise, overturn and withdraw entrustments. Devolution to non-state bodies, private actors and NGO's is called privatization. Devolution to a community and representative local government on the other hand, is usually called "*political decentralization*" and can, according to Ribot (1999) be a mechanism of community participation (Ribot 1999:28). It is within this category CBNRM can be placed.

CBNRM is situated within the theoretical framework that aims at empowering local communities through decentralized allocations concerning the use and management of natural resources in their locality (Adhikari 2001:9-10). CBNRM is based on the notion that natural resource management should involve local communities in all stages of the process. It has three primary objectives:

- Improving livelihood and security of local people
- Enhancing environmental conservation
- Empowering the local people

These require that the local communities play a central role in natural resource management interventions brought on by, in some cases, external actors. Involvement and active participation of concerned local populations is crucial for sustainable use of the natural resources in both ecological and socio-economic terms (Adhikari 2001:9-10). According to several authors (Ribot 1999:27 and Agarwal & Ribot 1999:4) and the World Bank, decentralization and participation have a symbiotic relationship. On the one hand successful decentralization needs some degree of local participation and on the other the process of decentralization in itself can enhance the opportunities for participation by placing power and resources on a more easily accessible platform (World Bank 2001).

The literature on decentralization in the context of CBNRM has concentrated on defining what should be decentralized, to whom, how and with what effect (Ribot 1999 and Agrawal & Ribot 1999). It is only recently studies on CBNRM have begun to examine the heterogeneity of communities and how the decentralization in natural resource management has affected different community groups such as women (Meinzen-Dick & Zwartveen 1998:337, Mohanty 2004:30, Agarwal 1997 and Agarwal 2000). Since communities are differentiated along different axes including gender, wealth and education, decentralization should be representative of the diverse groups found in the community in order to accommodate multiple interests (Ribot 1999:54-57).

### 3.2 Participation and gender

A great deal of the decentralization literature concerns local participation and argue that this is a prerequisite for successful decentralization (Cohen et al 1981:105, Agarwal & Ribot 1999:4, Bardhan 2002:194, Dressler et al 2010:5, Ribot 1999:29). Devolution of control over resources from the state to different local actors does not necessarily result in greater participation of all stakeholders. Gender difference in power and women's participation has received attention in relation to decentralization and CBNRM (Meinzen-Dick & Zwartveen 1998:337, Mohanty 2004:30, Agarwal 1997 and Agarwal 2000). Meinzen-Dick and Zwartveen (1998) argues along the same lines as Agarwal (2001), that despite the rhetoric on



women's participation in different CBNRM initiatives women's actual participation is minimal.

Women's crucial role in development was first brought forward by Ester Boserup (1970) in her text *Women's Role in Economic Development*. Boserup highlighted women's central roles in the economic sphere of different societies by presenting data from Asia, Africa, Latin America and the Caribbean. She argued that the introduction of the international market economy resulted in a modernization of the gender division of labor and that this process drew men away from the reproductive sphere and gave them an exclusive access to economic resources among others. Boserup argued that this trend had to be reversed in order to ensure economic survival and development of the "third world" and that could only be achieved if women were more fully integrated in development (Boserup 1970).

During this time approaches such as "women in development" (WID) became popular. By the mid 1980's environmental concerns had focused on the idea that women were the main victims of environmental degradation and as such they would be appropriate contributors to protect the environment (Agarwal 1997:120). This concept played an important role in the emergence of the "women, environment and development" (WED) perspective which put an emphasis on a special relationship between women and the environment (Torri 2010:3). This notion is also the foundation of "ecofeminism". This idea of a special link between women and the environment has received much skepticism, particularly since WED treat women as a homogenous group, not taking class, religion, caste or ethnicity into account. This is a criticism posed by for example Agarwal (1997:122), she argues that this ignores other forms of domination which also impinge on women's position.

It was against this backdrop that the "Gender and Development" (GAD) approach was established. This approach took into account gender, gender as socially constructed rather than biological and intersectionality (Connelly et al 1996:55). The emergence of ecofeminism spurred the development of feminist political ecology (FPE), the most well-known and groundbreaking study in this area is the book "Feminist Political Ecology: global issues and local experiences" (1996) edited by Rocheleau et al. which criticized the "special link" between women and nature, and the notion of gender as biological (Schroeder 1997:11). Gender has been recognized as a key variable in development efforts but gender analysis within CBNRM has only recently gained attention (Torri 2010:3).

### 3.3 The WSD literature

The CBNRM concept includes initiatives such as WSD, which is a subject thoroughly researched. The literature surrounding watershed management and programs mainly focus on policy related issues, institutional drawbacks, implementation issues and community and participation issues. Some literature focuses on the positive outcomes of watershed projects on different areas such as increase in ground water level, reduction in runoff water, cropping, agricultural productivity, employment generation and an increase in income.

Joshi et al. (2004) provides an extensive study on the socio-economic, policy and institutional aspects in watershed management in India. They bring up different issues such as the potential problem with equity in benefit distribution and identify knowledge gaps and areas for future research. They moreover call for a development of a more effective and transparent institutional framework for enhancing people's participation (Joshi et al 2004:71-73). Dash, Dash and Kara (2011) also focuses on the institutional aspects of sustainable WSD and specifically the role of local institutions and the crucial role of local participation in building functioning local institutions for watershed management (Dash, Dash and Kara 2011:266).

Another area extensively researched is the impact WSD has on poverty alleviation (Kerr, Pangare and Pangare 2000 & Srigriri, Chennamaneni and Hagedorn 2003). Kerr (2002), brings up different subjects such as distribution of benefits and the relation between productivity, conservation and poverty alleviation. The most crucial point brought forward in this study is that there is potential poverty alleviation trade-offs in the effort to raise agricultural productivity and conserve natural resources, which is partly due to a skewed distribution of benefits (Kerr 2002:1398).

Another theme in the watershed development literature concern rural livelihoods, whether or not watershed projects can sustain or enhance rural livelihoods and the social impacts of such programs. Turton (2000) examines the impact of WSD on rural livelihoods through a sustainable livelihoods (SL) approach and to which extent WSD activities result in the creation of new livelihood opportunities and to which extent these are equitably distributed and sustainable. In this study the impact of WSD on livelihood strategies such as agricultural intensification, diversification and migration are also discussed (Turton 2000). Reddy et al (2004) also use the sustainable livelihoods approach to WSD programs and analyzes whether WSD programs can sustain rural livelihoods through the SL approach. As many other

researchers (Kerr 2002, Kerr, Pangare and Pangare 2000, Srigiri, Chennamaneni and Hagedorn 2003) Reddy et al (2004) brings up equity issues.

### 3.4 Equity, participation and gender in the WSD literature

Participation and equity are two main themes in the WSD literature. This has resulted in research concerning gender and women's participation in different WSD initiatives. Shah (2000) examines WSD from a gender, environment and development (GED) perspective and women's role in ensuring sustainable livelihoods, Upadhyay (2005) focuses on women's roles in natural resource management and argues that women are excluded in decision-making processes and are denied equal sharing in the benefits from natural resources, Raha, Osbahr and Garforth (2012) address the gap between policy objectives and the reality, which is especially evident in the context of women's access to resources and entitlements. Common for all these studies is the lack of women's effective participation in decision-making processes, the importance of ensuring and enhancing women's participation and gendered issues concerning access and equity regarding benefits. This is also evident in Arya's article (2007), she argues that women must be an integral part in the decision-making processes and that women's participation should not only be judged by the number of women attending meetings. This is a common criticism put forward in the literature concerning women and gender in WSD (see Pangare 1998 and d'Souza 1998).

There is limited research concerning direct and indirect effects of WSD activities on women, men and gender roles. Agarwal (1997) briefly discusses the implications CBNRM initiatives have for rural women and indicates that activities connected to joint forest management initiative results in longer working hours for women since they can no longer collect firewood in the protected areas and have to travel for longer distances (Agarwal 1997:21), this is also briefly discussed by Torri (2010:8-9). Arya and Samra (2007) also mention an increase in women's work-burden since the introduction of WSD activities, (Pangare 1998) calls this the "triple work-burden" of women and put forward the following "equation": domestic work + work in the fields/work with livestock/daily wage labor ++ community action/voluntary work (shramdan)/meetings/WSD activities = triple work burden of women (Pangare 1998:4). However most of these studies have women's participation as a main focus and only mention the direct effects in passing.

## 4 Analytical Framework

In this section the analytical framework for analyzing the data is presented, this framework consists of a mix of Feminist Political Ecology (FPE) and gender analysis. This approach was guided by the research questions and deemed as a suitable way for answering the same. FPE constitutes the overall framework and gender analysis is used to complement the FPE and contributes with relevant categories for categorizing the data as FPE does not provide comprehensive tools for analysis but rather functions as an overarching view for analyzing experiences through a gendered lens. Gender analysis also assists in answering the question regarding power relations, which is an issue which is not sufficiently discussed in FPE, but essential for understanding the gendered direct and indirect effects of the CBNRM.

### 4.1 Feminist Political Ecology

FPE aims at analyzing gendered experiences of and responses to environmental and political-economic change that brings with it changing livelihoods, landscapes, poverty regimes and social relations. At the core of this theory is an emphasis on uneven access to, distribution and control of resources by gender, class and ethnicity (Rocheleau et al 1996). FPE further highlights the nuanced and complex negotiation (and re-negotiation) of gender roles, responsibilities, spaces and human-environment interactions that take place at the local level due to large-scale restructuring and transformation (Hovorka 2006:209-210). It also focuses on the struggle of men and women to sustain ecologically viable livelihoods and the prospects of any community for sustainable development (Schroeder 1997:12).

FPE seeks to understand and interpret in the context of global process of economic and environmental change and combines three themes the first one is *gendered knowledge*, which includes the “science of survival” which encompasses the creation, maintenance and protection of a healthy environment at home, work and in regional ecosystems. This theme will only be touched briefly upon in this thesis since the focus of this study is not how gendered knowledge surrounding environmental issues such as how to best manage a drought is reproduced. However, FPE emphasizes that environmental issues are survival issues for many people around the world; this is also true in this case. The second theme *gendered environmental rights and responsibilities*, includes property, resources, space, customary and legal rights which are gendered. This theme encompasses different aspects such as access and

control of resources and gendered responsibilities connected to environmental issues. This theme will be in focus in this study since it will allow us to study how gender roles have changed by examining the gendered responsibilities in the community in a CBNRM context. It will furthermore assist the analysis of how the potential work-burden and benefits are divided in the community in a CBNRM context by highlighting the access and control over resources stemming from the CBNRM initiative. The third theme is *gendered environmental politics and grassroots activism* which includes women's involvement in collective struggles over natural resource and environmental issues (Rocheleau et al 1996:4-5). Since this case is not a result of women's collective struggles and involves both men and women, this theme has been excluded.

#### 4.1.1 Gendered environmental rights and responsibilities

In this theme gendered environmental rights of control and access, and responsibilities to procure and manage resources for household or community use is considered. This is according to FPE a reflection of women's and men's often distinct rights and responsibilities in production and reproduction and the rights and responsibilities to determine the quality of life and the nature of the environment. These rights and responsibilities are divided into four different domains:

1. Control of resources
2. Access to resources (de facto, de jure, exclusive, shared, primary and secondary rights)
3. Gendered use of resources (inputs, products, assets for subsistence and for commercial use)
4. Gendered responsibilities to procure/and or manage resources for family and community use (Rocheleau et al 1996:11).

The first three domains consider different types of rights, uses and resources. Environmental resource rights may be either de jure (legal) or de facto (custom/practice) and according to Rocheleau et al (1996:12) women are often associated with de facto rights and men with de jure rights. FPE furthermore notes that women's rights and access to different resources often is nested within rights that are controlled or allocated by men (Rocheleau et al 1996:12). These categories show a gendered division of resource rights, access and use. "Gender-based

asymmetrical entitlements” is another concept included in FPE, where entitlements to resources are argued to be of an asymmetrical nature based on gender (Rocheleau et al 1996:291). Moreover there is an important gender division of responsibilities which are most concretely expressed on household and community level and the most common ones are:

1. Responsibility to procure inputs and products for household use, such as fuel and water.
2. Responsibility to manage resources, such as protection of water sources, soil conservation and maintenance of community forests (Rocheleau et al 1996:13).

According to Rocheleau (1996) women are responsible for resource procurement and environmental maintenance to a larger extent than men, yet they have very limited formal rights to determine the future of resource availability and environmental quality (Rocheleau et al 1996:13). Environmental rights and responsibilities are gendered spatially, for example women’s or men’s domains of access and control are often divided between private and public spheres; between the home and the workplace (Rocheleau et al 1996:11).

## 4.2 Gender Analysis

Gender analysis is intended to be a tool used for design and implementation of development interventions but contains a clear toolkit that can be used to conduct gender analysis also during and following project implementation. In this thesis, aspects of gender analysis act as a complement to FPE, as gender analysis provides clear and useful categories for structuring the data collected by gender. It also provides an additional way for analyzing gendered power relations that is not discussed concretely in the FPE but still an essential part of understanding how the direct and indirect effects of the CBNRM affects men and women differently.

Gender analysis is a tool to better understand the realities of women and men, whose lives are impacted by planned development and examines the dynamics of access to and control over the use of resources that women and men are engaged in within different contexts. Gender analysis can be used in different ways to inform decision-making (Vainio-Mattila 2001:8-9). In essence gender analysis emphasizes and examines the roles and relationships of women and men in society and the inequalities in those relationships.

#### 4.2.1 Activity Profile and the Gender Division of Labor

This profile was chosen because it demonstrates the gender division of labor and correlates to women's and men's often distinct rights and responsibilities in reproduction and production described in FPE's "*Gendered environmental rights and responsibilities*". It moreover will facilitate the examination of how the potential work-burden connected to the CBNRM is divided by gender in the community by contributing with a specific category pertaining community involvement.

*Gender division of labor* concerns the tasks, activities and responsibilities men and women are assigned based on their sex. The gender division of labor is not fixed, it changes over time and due to external circumstances and it varies from one society and culture to another. Included in the activity profile is a distinction between three different types of work; *productive, reproductive and community involvement* (March, Smyth and Mukhopadhyay 1999:33). This is closely related to gender roles which are defined as; *the behaviors, tasks and responsibilities that a society considers appropriate for men, women, boys and girls* (FAO 2014), and thus suitable for answering the research question regarding gender roles in the WSD area. Gender roles are further related to the notion of "gendered spaces" in FPE; socially constructed spaces appropriate for men and those which are domains for women (Rocheleau et al 1996:292).

*Productive work* includes the production of goods and services for income and subsistence. This type of work is primarily recognized and valued as work by individuals and societies. Both men and women are active in productive work but not all work is valued or rewarded in the same way (March, Smyth, and Mukhopadhyay 1999:33). According to FPE, men and women often have distinct responsibilities and rights in relation to production, where men are often connected to the productive work or public sphere (Rocheleau et al 1996:10).

*Reproductive work* includes the care and maintenance of the household and its members. This includes procuring inputs for household use such as fuel and water, cooking, washing, cleaning, nursing and bearing children. This type of work is essential but normally unpaid, not as valuable as productive work and is mostly done by women (March, Smyth and Mukhopadhyay 1999:18-19). This notion is also supported by FPE which suggests that women are the ones most commonly connected to the private sphere with the main responsibility of activities connected to subsistence. FPE furthermore suggests that women

carry a disproportional share of responsibilities in regard to resource procurement (Rocheleau et al 1996:10-13).

*Community involvement* is an optional addition to the activity profile in the Harvard Analytical Framework this category can include community activities such as attendance at meetings, involvement in CBNRM initiatives and recreational activities among others (World Bank PSIA sourcebook 2012). This category can be used to demonstrate how the potential work-burden of the CBNRM initiative is divided among gender within the community.

When women engage in all these type of activities it can result in the so called the triple-burden of women (Pangare 1998:4).

#### 4.2.2 Access and Control Profile

The second aspect chosen to be necessary to include in order to analyze the data is what is referred to as the *access and control profile* in the Harvard framework. This profile relates to domain 1, *control over resources* and 2, *access to resources* found in FPE. This profile was included as it facilitated examination and categorization of who has and controls what in the community. This profile was found important to include as it enables the explanation of results stemming from men's and women's differing access and control of productive resources and potential benefits stemming from access and control of the same (March, Smyth, and Mukhopadhyay 1999:41).

*Resources* are usually divided into three categories: a) *economic/productive resources* which include land, equipment, tools, labor, cash, skills desired in income generating activities, employment and/or income earning opportunities; b) *political resources*, defined as representative organizations, education and information, household decision- making power, public-sphere experience, self-confidence and credibility; and c) *time* which is a particular critical and scarce resource for women (FAO 1995). This notion is included in the concept of "time-poverty" among women; working long hours and having no choice to do otherwise. A woman is time-poor if she is working long hours and is also financially poor, or would fall into monetary poverty if she was to reduce her working hours. Time-poverty leaves little space for the development and realization of women's personal needs, capacities and rights (Bardasi & Bodon 2009 and FSD International).



Women generally have a subordinate position that limits their access to and control over resources and benefits. Women may have access but lack control or they may have little or no access to benefits stemming from having access to resources, even when the resources may be results of gender-sensitive development interventions, aimed at providing access to economic or productive resources. Limited access and control of time as a resource may have devastating consequences for women's abilities to participate in access and control-generating development interventions, thus creating a vicious circle resulting in limited or no access to benefits (FAO 1995).

#### 4.2.3 Power and Decision-Making Profile

This profile is not explicitly related to FPE, but was chosen as a necessary complement to the FPE framework in order to fully understand the gendered direct and indirect effects of the WSD.

Power and decision making includes understanding the difference between gender in their ability to decide, influence, control, and enforce personal power and in the community thus demonstrating gendered power relations. It further entails being able to make decisions freely, exercise power over decisions made regarding the personal sphere but also within the household or community. This aspect in gender analysis also allows the researcher to examine household-based and individually made economic decisions pertaining to household or individual income and resources and employment as well as time-division of household tasks and wage labor and the individual's decision regarding participation in community affairs and committees (USAID 2011).

#### 4.3 Operationalization

In order to reach the aim of understanding gendered direct and indirect effects of the WSD project in Jhabla, several theoretical concepts have been discussed in the section above. FPE is the overall framework and gender analysis is the operational one. FPE brings up more abstract notions that are also found on a more concrete level in gender analysis. The activity profile with the primarily focus on gender division of labor, found in gender analysis combined with gendered responsibilities from FPE will be used to examine the change in gender roles since the introduction of the CBNRM. This will be done by studying the work typically done by women and by men and the perception of these roles through interviews,

participatory rural appraisal (PRA) and observations. By examining which type of work is conducted by men and women the division of the potential work-burden stemming from the CBNRM will be demonstrated. The access and control profile includes aspects both from gender analysis and FPE and will allow us to understand how the resources and benefits are distributed among gender within the community by examining access and control over resources typically connected to the CBNRM initiative. This is done primarily by focus-group discussions, with men and women separately and by semi-structured interviews and observations on meetings.

FPE mention the importance of power relations but does not offer any analytical tool for analyzing gendered power relations, the power and decision-making profile from gender analysis however offers a tool for examining gendered power relations. In the case of this study, power and decision-making has been studied primarily through focus groups and interviews with members from the same household, in order to understand power dynamics.

## 5 Methodology and Methods

The purpose of this chapter is to present the methodological and philosophical assumptions supporting the research, as well as the methods used and provide insight to reliability and validity of the work.

The fieldwork was conducted in Jhabla and Mordungri during the period from September to December 2013 and throughout the research process a continuing dialogue was held with informants from the two areas. The main methods used for data collection were semi-structured interviews, focus group discussions, PRA activities, observations and collection of field notes. These methods have been complemented by a thorough examination of secondary data. This chapter has been divided into 3 main sections. The first section examines the methodological issues; ontological and epistemological standpoints and the choice of using case study as the research design of this study. The second section focuses on data collection and a description of how the analysis was carried out. The last section brings up a number of issues connected to the validity and reliability of the chosen research design as well as the thesis itself.

## 5.1 Methodology

The ontological and epistemological standpoints in this study are social constructivism and interpretivism, these are strongly connected to qualitative methods which are the primary methods used in this thesis (Creswell 2009:4-5). Ontology is concerned with how the researcher perceives reality. As pointed out by Ragin and Amoroso (2010) the research conducted is built up by an array of images, such as those collected by us as researchers while preparing to enter the field. Many images stem from information internalized while studying the particular subject before entering the field.

The epistemological standpoint, social constructivism, is based on the proposition that reality is subjective and shaped by different socially constructed meanings. The world is according to this standpoint, socially constructed and that there is no objectively verifiable truth; only interpretations of the world we live in. Epistemology contains what should be considered as acceptable knowledge. Interpretivist epistemology suggests that all individuals perceive unique realities when they experience different things; the social life is built by individual perceptions (Creswell 2009:7). Just as the individuals taking part in this study give meanings to situations, so do also we as researchers; our past experiences and education affects how we interpret the data collected. These philosophical worldviews inform the research design, strategy of inquiry and the interpretations of the data.

The research design adopted in this research is that of a *case study*. A case study can be used for studying a community, an event or program. Cases are bounded by time and activity, where the researchers collect detailed data using multiple sources and collection procedures (Creswell 2009:9, Bryman 2008:52). A case study design allows the researcher to study a single case in depth to explore the complexity and nature of the case rather than generalizing, (Bryman 2008:53) which is the aim of this research study. This research design is also closely connected to the epistemological and ontological standpoints as it recognizes the voices of the participants and allows the researchers to interpret findings also through their subjective worldview. In an interpretive research project, such as this case study, there are no predefined variables but rather a focus on the complexity of how issues are connected as an understanding of the situation at hand emerges (Kaplan and Maxwell 1994).

## 5.2 Methods

### *Data collection*

Data collection was done through both secondary and primary sources. Methods were chosen following an initial visit to the field which provided insight as to which methods would be suitable. The data collection methods used are examination of secondary sources, semi-structured interviews, focus group discussions, observations and PRA activities, methods which were all chosen after the initial visit to the field. These methods did however provide the possibility of being more flexible in the research design (Creswell 2012:154-57) and detailed data could be collected from an array of sources and collection procedures, thus also enhancing the possibility to triangulate data and increase reliability and validity of the study (Creswell 2009:9, Bryman 2008:52).

### *Secondary data*

A desk study was conducted before entering the field. The aim was to gain an insight and knowledge about the context and the case. The focus of the desk study was to understand how a watershed functions, the topographical conditions in the area, the demographics in the villages and gender issues specific to India and Rajasthan. The examined documents covered several sources and included government reports, data from Seva Mandir and articles. This information was part of shaping an understanding of the situation and also provided insight to which questions could be asked during visits to the Jhabla watershed area.

Secondary sources were used later in the research process to cross-check information and facilitate understanding of the case at hand. Secondary information also provided a vast database of information on both social issues as well as the natural resource aspects pertaining to the Jhabla watershed as well as watersheds in general. The secondary sources also aided exploration of responses given during interviews.

### *Semi-structured interviews*

A number of semi-structured interviews were held during different stages of the research process. Semi-structured interviews were chosen as this method made it possible to pose a few open-ended questions in order to allow space for the participants to express their own personal views on the watershed (May 2002:207-8; Creswell 2012:160). Random sampling

was practiced as to make sure we gained an understanding of the situation through voices from as many people as possible. However, some interviews were carried out with for example five women and five men (decided number), but they were randomly chosen from people attending a village meeting.

All the interviews were conducted in whatever language the person being interviewed was most comfortable with, usually Mewari or Hindi, and in order to be used in this thesis were then translated into English with the help of the translators used. All interviews were transcribed.

Later in the research process snowball sampling was practiced as information given through semi-structured interviews and participatory PRA activities that were carried out needed to be cross-checked or supported with additional information. This was often the case when specific families were used as examples by respondents and information pertaining to them and their household was highly relevant and interesting (Bryman 2008:424).

The people being interviewed and participating in other data-collection methods were provided with information about the study carried out and were given the opportunity to give oral consent to participating. A few key-informants were interviewed due to their versatile roles as representatives on numerous committees and village institutions. These key-informants were selected as on the basis of their closeness to the topics of the study and their extensive involvement with the CBNRM project.

The total number of respondents to interview was reached when no new information was found through interviews. Comments from individuals made in semi-structured interviews (labelled semi-structured interview 1, respondents A-J, semi-structured interview 2, respondents A-N, semi-structured interview 3, respondents A-E, semi-structured interview 4 and 5, semi-structured interview 6, respondents A-E) are found in the analysis and in the interview guides in appendices A-F. Names found in the text are fabricated to ensure the participants anonymity.

### ***Focus groups***

Focus group interviews were chosen as a primary method as many people were not comfortable in participating in the research project on their own but quickly opened up when they found that others were comfortable speaking on the topics scrutinized. Conducting focus

group interviews provided insight to how the people constructed and ascribed meaning to processes and issues connected to the watershed (Bryman 2008:504). Focus group exercises also provided information regarding potential existence of similar opinions and thoughts regarding the watershed project among the people taking part in the focus groups. Using focus groups as a method allowed for a deeper examination of patterns of interaction and power relations among those participating, such as mixed men and women groups or among women and men separately, showing intra-gender power relations. It furthermore facilitated speaking to several people at once and the method was found highly suited to the ontological and epistemological standpoints and the research design in general. Focus group exercises were conducted with as little involvement as possible from the moderator and were recorded or transcribed (Bryman 2008:509). Focus groups and topics can be found in appendix H.



*Image 1. Power and decision-making. Focus-group 4. Authors' photography.*

### ***Participatory Rural Appraisal***

Because of the low literacy rates in the village, PRA followed by group interviews and focus groups were found to provide good insight to the subject and allowed for deeper exploration into even more potential methods that could feed into answering the posed research questions

(Bryman 2008; Scheyvens & Leslie 2000). A number of different types of PRA exercises were conducted; some were for example group discussions where the community chose what was to be discussed. Most of the PRA exercises were however designed to include those who did not openly express their opinions during focus group exercises, those who were not part of the study through other methods and to open up for those participating in PRA activities to discuss things that had not previously been considered. Using PRA as a method provided an opportunity to better include the local stakeholders understanding of what was important to discuss with regards to the watershed (Mikkelsen 2005:88-90). By for example conducting an exercise regarding decision-making power in households of the Jhabla watershed area, insight was found not only to what was being pre-determinedly examined by the researchers, which could have resulted in mere statistical data, but instead led to many participants wanting to explain what their answers meant and recounted their views of the issues being focused upon (Mikkelsen 2005).

PRA tables and description of the procedures connected to the same can be found in appendix G.

### ***Observations***

Both participatory observations and non-participatory observations were conducted in the field and these can be found in appendix J. Field notes and photography were used to document behavior and activities of individuals at the research site (Creswell 2009:139). An observational protocol was used for recording information during the observations. This protocol was used to separate descriptive notes such as the characteristics of the watershed site and reflective notes; personal thoughts such as impressions and ideas. The uses of observations lead to valuable insights and information that could not have been obtained in interviews and allowed cross-checking of information given in interviews and PRA activities (Mikkelsen 2005:88).

### **5.3 Description of analysis**

As this research project consists of a number of different data collection methods, it was necessary to ensure that the chosen methods supplemented one another and once analysis was undertaken, that it was possible to search for patterns stemming from several methods. Collected data was analyzed by identification of patterns found during the research process

and that facilitated the explanation of existing data and theory. The chosen methods revealed participants views on the “why’s and how’s” connected to the CBNRM intervention, providing multiple, sometimes contradicting interpretations of the same case, thus meaning the analysis is not searching for a correct interpretation, but rather an understanding of the situation (Mikkelsen 2005:181; Yin 2009). Interviews and observations were analyzed through text analysis as a thorough reiterative reading of notes and transcripts made it possible to understand the respondents’ answers from several angles as the research progressed. Analysis of interview transcripts also provided insight to how individual understandings and perceptions were linked and contradicted other participant’s understandings and perceptions of the same situation, thus providing a basis for understanding of the interconnectedness and complexity of the examined concepts.

#### 5.4 Reliability and validity

Qualitative research is subject to issues concerning for example, the reliability, replicability and validity of the data, these are also the most important quality criteria that apply to the research design in this study.

Reliability is based on the consistency of the researcher’s approach during the research process, which can be identified as several types of reliability; in this thesis primarily focused on two types of reliability. The first type of reliability is *internal reliability*, which focuses on ensuring that more than one observer or researcher agrees that the same results are found. In order to ensure reliability, measures suggested by Creswell (2009:145) have been used: cross-checking codes used in the transcription process to ensure that they are accurate and cross-checking transcripts, through for example comparing notes and recordings in order to detect errors. Transparency in the research process, *external reliability*, ensures that the study is “reproduceable” and re-usable (Bryman 2008:47).

Mikkelsen argues that perfect validity and objectivity is impossible to obtain due to the profoundly subjective dimensions of qualitative research. Mikkelsen further suggests that openly describing the values and methods used in the research are a good way to deal with issues of reliability and validity (Mikkelsen 2005:195-196). This is why the methods, values and data collection procedures in this study are explained in a transparent manner and the interview questions and exercises can be found in the appendices. Influenced by the work of Sultana (2007), issues of positionality and reflexivity have guided the fieldwork; issues such



as power relations between researcher and participants have been considered in an attempt to ensure an ethical approach. These issues and measures such as triangulation, and transparency in the research process have been applied to increase the validity and quality of the data.

The issues presented below are factors which have been considered to address both concerns regarding validity as well as questions of internal and external reliability.

Using a translator was also a source of concern as none of the authors of this thesis speak Hindi or the local dialect, Mewari, and therefore had a hard time ensuring accuracy of translations made. As most interviews and focus groups were recorded and transcribed with the help of the translator and often another native-speaker as well, the results found in responses given in interviews and focus groups are considered valid.

Women were often short of time when participating as they had to return to household chores or agricultural work presenting an ethical concern. However, as a semi-structured interview guide was used for these interviews, flexibility was practiced so that the women could leave whenever they needed to.

## 6 Analysis

The first section of the analysis is an in-depth description of the case where the FPE perspective is incorporated. The second part of the analysis (sections 6.2-6.5) is divided into several sections, each according to theory, however aiming at responding to specific research questions. The second part of the analysis constitutes of primary material starting with the activity profile, aimed at responding to research question number one which is focused on understanding how the introduction of the watershed has affected gender roles (the behavior tasks and responsibilities that are deemed appropriate for a person and practice depending on their gender). The activity profile also facilitates the investigation of research question 2a, focused on understanding how the potential work burden stemming from the CBNRM initiative in Jhabla is divided in the community, thus examining community involvement. Section 6.4 then sets out to respond to research question 2b by using the access and control profile. Lastly the power and decision-making profile is used to understand how gender relations (how men's and women's identities, rights and responsibilities are defined in relation

to one another) are expressed, noticed and practiced following the introduction of the CBNRM initiative that the Jhabla watershed is.

## 6.1 Selection of site and profile of the Jhabla watershed

The Jhabla watershed area was selected as it is considered a well-functioning watershed project where great improvements have been made with regards to natural resource management. The Jhabla watershed was also chosen as the focus of this research project as it allows for examination of the socioeconomic context as well as local governance and village institutions in a watershed area. Through an initial visit to the watershed area, it was discovered that most households live in extremely poor circumstances and struggle to meet their basic needs. Against this backdrop, it became evident that more than the positive natural resource aspects following the introduction of the watershed needed to be examined.

The Jhabla watershed covers two villages; Jhabla and Mordungri, however the main part of the watershed area is located in Jhabla. These villages are tribal communities and all the inhabitants belong to the same Scheduled Tribe (ST), the Meena tribe and thus they all belong to the same caste. The ST's are historically-disadvantaged people and they have a special protection under the Constitution. Approximately 8 percent of India's population belongs to ST's and in 2001, 12 percent of the total population of Rajasthan belong to ST's where the Meena Tribe is one of the largest (Mita 2007:3). According to a household survey from 2011, there are approximately 1400 inhabitants in the watershed area, with 727 males and 673 females (Seva Mandir 2012a:8) which suggests an unnatural sex ratio and indicates the phenomenon "missing women"<sup>3</sup> which is common in Asia.

### *Connecting theory to context*

FPE suggests women are often associated with de facto rights and men with de jure rights when it comes to resource use and ownership. FPE moreover states that women's rights are often encompassed within rights controlled by men or women holds rights to resources that are allocated by men through for example lineage (Rocheleau et al 1996:12). This is also the case in Jhabla, where it is only the men who can inherit and own land according to the Meena

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<sup>3</sup> "Missing Women" is a concept developed by Amartya Sen and refers to the deficit of women in Asia and north Africa which arises from sex bias in relative care (Sen, A.1992)

customary law. The inheritance law allows equal distribution of the property among the father's sons; daughters are not entitled to any share. The sons should inherit enough land to support them and their family, however if the father's land only can sustain one family the younger sons are entitled to a nominal share in its produce (Rizvi 1993:294). Due to a Supreme Court case in 1996 it was stated that the right of the male successor would not come into operation until the female descendants are no longer dependent on the land for survival (Reddy 1999:24-25). Tribes are subject to different customary laws, which differ depending on tribe as well as the formal laws and the state's legal system. There is a male dominance among the tribes of India, where authority and inheritance are applied along male lines which is also the case in Jhabla (Mann 1993:282).

### *Environmental context*

Most households are located on hilltops with a distance of more than 0.5 kilometers between houses. The main activity in the village is agriculture for sustenance and the main source of income derives from daily or seasonal migration predominantly conducted by men. This has left the women of Jhabla with the sole responsibility of the household and led to a feminization of agriculture in the village. Most farmers in Jhabla are small-scale or marginal farmers and with little means of irrigation, all agriculture is rain-fed. The region where Jhabla is located receives between 350 to 650 mm of rain per year and suffers from periodic droughts and undulating terrain, making what little rain that falls, run down into the valleys also causing soil degradation. It is against this backdrop the WSD was started, to increase the means of irrigation, improve the access to water and enhance the inhabitants' livelihoods. The watershed in Jhabla has seen the introduction of many new institutions as a result of the WSD project. The WSD project in Jhabla is a joint venture between the Indo-German Watershed Development Programme (IGWDP) and the NGO Seva Mandir, which aims at incorporating natural resource management as well as community development when working with the watershed as they are recognized to be interlinked.

Gender integration and mainstreaming is stated to be an essential part of the watershed development program in Jhabla where women are to be involved in every stage of the process. Women are especially targeted under the program where women are encouraged to form SHG's and the VWC (Village Watershed Committee) has to have a 30% representation of women (NABARD 2006:13-15).

## 6.2 Activity Profile: Gender roles in the watershed area

There are three distinct types of work included in this profile, namely *productive*, *reproductive* and *community involvement*. This section will be used to analyze the tasks, activities and responsibilities men and women are assigned based on their sex. This will reflect different gender roles which include behaviors, tasks and responsibilities that a society deems appropriate for men and women (FAO 2014). What is considered as men's tasks are valued differently than women's (March, Smyth and Mukhopadhyay 1999:33).

### ***Productive work***

In the rural parts of northern Rajasthan daily or seasonal migration of men to urban areas to engage in wage labor is a common practice. This is also the case in Jhabla where low agricultural-productivity results in the need for complementary incomes. This leaves the women to take care of the household, agriculture and the WSD activities (Seva Mandir 2012b:7-8).

The first semi-structured interview (1, respondents A-J) with five men and five women from different families revealed that the only members in the families earning an income from traditional wage labor were the males. During interviews with both men and women they told us that earning an income is a man's responsibility and role in the community (semi-structured interview 1, respondents A-J). This supports the notions in FPE where men and women have different roles connected to different activities. FPE's claims that migration has the potential to transform the gender division of labor and gender roles since women become main cultivators instead of men (Rocheleau et al 1996:294.) This is also true in Jhabla where women maintained cattle, took them grazing and/or worked in the agricultural fields while the men engaged in migration, indicating the effects migration had on shifting roles and responsibilities (PRA 3). However, Ramesh (semi-structured interview 4) told us that a few men are not migrating to the same extent as before the introduction of the watershed program; a reduced daily and seasonal migration of men was a desired and intended consequence of the introduction of the watershed activities in the area.

***Reproductive work***

According to FPE men and women often have distinct responsibilities and rights in relation to production and reproduction, where men are often connected to commercial activities, which have been showed in the previous section and women to the private sphere with the main responsibility of activities connected to subsistence (Rocheleau et al 1996:10). The women in Jhabla are the ones primarily engaged in *reproductive work*, furthermore interviews revealed that taking care of children and the household is a woman's responsibility and role in the community (semi-structured interview 2, respondents A,B,C,E,G,H,J,L,M), supporting FPE's notion.

Indeed, Chota (semi-structured interview 2, respondent A), described her responsibilities like this; *"I have to take care of my family, cook and clean. I cook all the meals. I eat last and alone"*. This suggests she has a firm role and responsibility connected to the subsistence of her family.

FPE suggests that women carry a disproportional share of responsibilities for resource procurement and that they have very limited formal rights to determine the future availability of the resources (Rocheleau 1996:13). Meera (semi-structured interview 2, respondent B) told us that the male members of the household would occasionally help her to collect water, but collecting water and fuel were mainly her or other female members of the household's responsibility. They were moreover not at all engaged in the household work. Which further reinforces the notion of "gendered spaces" as put forward by FPE (Rocheleau et al 1996:292) by making household work an area exclusively for females from a young age. However the increased work-burden of women has made some men "forced" to help out more in the household (semi-structured interview 2, respondents C&D).

Women are the main cultivators of the land and have very distinct roles and responsibilities in this area as well. Women have the sole responsibility for planting, gathering the harvest, cutting fodder, peeling the corn, sorting out waste from the yield and storage. Men are engaged in some agricultural activities such as seeding, drying, selling the crops and organize yield and fodder (PRA 1). This suggests that there is a gender division of labor within the specific activities, where women and men have different responsibilities.

### *Community involvement*

When it comes to the physical work in the watershed, women are the ones primarily engaged. Women expressed that they were involved in the less heavy work connected to the watershed, such as planting trees, which was perceived to be appropriate and suitable for women (focus group 2). This suggests that gender roles exist within the activity, where men and women conduct different types of work. However, observations (observations 1&3) revealed that women also were engaged in more heavy-work reserved for men (such as cutting stone for construction), which might have an impact on gender roles since tasks deemed appropriate for women and men are beginning to erode due to the fact that men are not present for conducting this type of work.

The low presence of men is based on their migration but also on the fact that women and men are equally paid in the watershed. According to Ramesh (semi-structured interview 4) a key informant working closely with the watershed project some men perceive it to be “women’s work” since men and women are paid equally and are not very motivated to participate in the physical activities connected to the watershed. This indicates that men’s and women’s work are valued differently and that men expect that their work should be valued more and demonstrates gender roles where men are the ones supposed to provide for the family. Another reason provided by Ramesh, Anshok, Dinesh and Gopal (semi-structured interview 4 & semi-structured interview 3, respondents A,B,C) was that the wage is paid each 15 days and the men prefer to get the money direct which is the case if they conduct wage labor in the city.

Gender roles and attributes are also evident in the SHG’s, despite the fact that the SHG’s are created as a “women-only space”; the accountant for the SHG’s is male. During the SHG meetings (observations 2&7) the accountant dominated the space despite that he is only responsible for the records and the accounts. The women did not speak up unless spoken to and most of the women also covered their faces as a sign of respect towards him. This suggests an unequal power balance between men and women in more formal settings and might hinder women to fully benefitting from the SHG’s. There was a quite low attendance at the female SHG’s meetings and many women left the meetings early (observations 2&7). The reason most frequently given as to why this was the case was that the women had so many other chores to attend to so they were unable to attend at all or had to leave early (focus groups 1&3).

The categories discussed above are an indication of what FPE describes as “gendered space”; spaces that are socially constructed as appropriate and suitable for men and those who are suitable and appropriate for women and demonstrates gender roles (Rocheleau et al 1996:292). Men are responsible for productive work whereas women are responsible for reproductive and community work. The introduction of the WSD program has created the opportunity for women to engage in wage labor, a domain that outside the community is considered a “male space” and also affected men's roles since they need to engage in household-work, this has the potential to erode the traditional domains of women and of men and affect gender roles in the long-term.

### 6.3 Activity profile: The division of work-burden

The aim with this part of the analysis is to answer how the potential work-burden stemming from the CBNRM initiative are divided and shared within the community, therefore the focus will be on community involvement. The aspects included in this section are the involvement in watershed activities, the VWC and the SHG's since they all are aimed at community development.

The watershed activities consist of two main parts; *physical labor* and engagement in the *Village Watershed Committee*. In the common guidelines for WSD projects expressed by the Indian Government it is not specified exactly how many women should be involved in the VWC (Government of India 2008:31). According to the IGWDP guidelines the VWC should constitute “an adequate representation of women”, in Jhabla the VWC has 15 members and 5 are female (NABARD 2006:12). The main responsibilities of the VWC are planning, implementing and maintaining the treatment measures implemented in the watershed area with the assistance of Seva Mandir (NABARD 2006:12). The VWC have meetings on the 21th of each month and according to the Ramesh (semi-structured interview 4) usually only 7 or 8 persons attending the meetings.

*The physical labor* related to the watershed activities in Jhabla consist foremost of building stone bunds, cutting stone for construction, building check dams, de-silting work, improving the traditional water body, digging wells, digging before planting, planting trees, construct gully plugs, constructing continuous contour trenches, construct staggered trenches and seeding. The labor division in this area is that women are engaged in all these types of

activities except in the cutting of stone for construction and more engaged in de-silting work, improving the traditional water body and planting trees than men. In the activities building check dams, digging before planting, constructing staggered trenches and seeding, only women are involved. The men were stated to be the ones doing the cutting of stone for construction (focus group 1). However, observations (3&7) revealed that there was a 70 percent female and 30 percent male relationship (also confirmed in semi-structured interview 4) at the watershed construction site and that women also engaged in stone-cutting. The labor conducted by the villagers in the watershed is paid, depending on the work it is 100-150 rupees per day.

Women have moreover been encouraged to start and engage in *Self-Help Groups* which is a part of the overall WSD in Jhabla. The female SHG's in Jhabla are aimed at economic empowerment of women. There are currently 11 SHGs in Jhabla and 2 in Mordungri, 12 of the groups consist of women only while one, Kisan, is a male SHG. All of the groups save 100 rupees per month and provide loans to members with the interest of 2 rupees per 100 rupees. All the different groups have a monthly meeting where all the members provide the accountant with the monthly sum of 100 rupees, taking loans, paying back loans and discuss different subjects in relation to the running and maintaining of the SHG. The money paid to the SHG's is often women's own money gained from physical labor in the watershed. There is one accountant responsible for all the 13 SHG's (semi-structured interview 5).

Important to note is also the ecological impact the watershed has on the productivity of the fields. Both men and women had seen an increase in the productivity of their fields after the introduction of the WSD program. They said that this increase was due to a greater availability of water during the season (focus group 3&6). This also resulted in an increase in women's workload since they had to take care of more produce. The men and women got the same question regarding the workload and all the men answered that it was the same as before, whereas all the women asked said that their workload had become greater. Despite the increased work-burden expressed by the women they all said that they did not mind since the increase in produce resulted in more food and potential income for their families (focus group 3 & semi-structured interview 1, respondents A-J). Chandra (Semi-structured in-depth interview 2B, respondent L) also told us that she now was able to send her children to school.



The migration of men has led to women being responsible for basically all the reproductive work including agricultural activities in their own fields and they are also more involved in community related activities since they represent the majority in the physical activities in the watershed, some are involved in the VWC and in SHG's. This suggests that women are more responsible for the natural resources in the community and that the added work-burden stemming from the watershed activities is disproportionately borne by women.

#### 6.4 Access and Control Profile: Division of Benefits

This profile assists the examination of who controls and who has access to resources stemming from the WSD in the community. This profile enables the examination of women's and men's different access and control over different resources and the benefits stemming from access and control of the same (March, Smyth and Mukhopadhyay 1999:51).

##### ***Resources***

Resources are divided into three categories; *economic or productive resources*, *political resources* and *time*. FPE suggests that women's rights and access to different resources such as land often is nested within rights that are controlled or allocated by men (Rocheleau et al 1996:12). Previous research on WSD suggests that benefits are not equally divided within the community and that women are denied equal sharing of benefits stemming from natural resources (Arya 2007, Raha, Osbahr and Garforth 2012 and Upadhyay 2005), this is also true in this case. The *economic or productive resources* are predominantly male in Jhabla. When it comes to land, women do not control the land since they do not own land, they have no de jure rights and the land is passed on as inheritance on the male line, supporting FPE's notion. Women do however have *access* to the land by being the main cultivators. During focus group discussions (4&5) and PRA exercises (1&2) it became evident that men control what is to be cultivated on the fields, despite the fact that women do most of the agricultural work. Men thus control the increased fertility and productivity of the fields stemming from the watershed.

Men are the ones most commonly engaged in wage labor and also the ones who controls the cash. Although women engaged in the physical watershed work receives a wage, they are not able to utilize it in an independent way, for example Manisha, Shivani, Meeta and Pooja (semi-structured interview 2, respondents E,F,G,H) all said that they could not buy what they

thought was needed for the household without the permission of their husbands. This indicates that women do not have access or control over the benefits, in this context cash, which stems from their physical labor in the watershed. It is important to note that women have access to money through the SHG's (if they are members); however they cannot take a loan if it is not approved by their husbands.

The *political resources* in the village concerns representative organizations and education. When it comes to the VWC, the high posts tend to be dominated by males, where the president, accountant and secretary are all male, the vice-president is however female. Women have access to the VWC since they represent 30% of the total number of members. During two observations (4&5) at VWC meetings, four women out of five who are members of the committee were attending, however the space was dominated by the men; they did the majority of the talking while the women were observing and they did not speak unless spoken to. Several women also had to leave early because of their other responsibilities. Women might have access to the VWC but lacks the time to participate and the control to influence its decisions.

When it comes to education and literacy, only two of the women interviewed could read and write and they had come to the village by marriage. According to secondary data there is a total of approximately 1400 inhabitants in the watershed area and only 432 has some sort of education out of them 120 are female. The table shows the differences among gender when it comes to education and clearly demonstrates that more men are educated compared to women in all the instances.

No	Description	Male	Female	TOTAL
1	Read and write only	89	58	147
2	Primary	111	32	143
3	Secondary	69	18	87
4	Matriculate	33	8	41
5	Senior secondary	5	3	8
6	Graduate and above	5	1	6
		312	120	432

*Table 1. Educational levels Jhabla watershed area.*

*Source: Seva Mandir 2011.*

The schools in the village only provide primary education and secondary education, for any higher education the children will have to go to live and study in Udaipur or another close-by city. Many of the secondary schools are boarding-schools which provide lodging. Women expressed that since the introduction of the WSD they were able to send their children to school to a larger extent than before (focus group 6). However, girls are not receiving higher education to the same extent as boys, some women expressed that they feared for the girls safety in the city (semi-structured interview 2, respondents A, G, J). Women generally have access to basic education but might not have access to higher education due to fears and restraints connected to their gender. The increased productivity and income due to the introduction of the WSD does not necessarily translate in higher education for girls.

*Time* is also included in the resource concept and tends to be a particularly critical and scarce resource for women (FAO 1995). The women in Jhabla have a heavy work-burden being the ones predominantly involved and responsible for the household, the children, the fields, the physical activities in the watershed and the SHG's (PRA 3). All the women said that their work-burden had increased since the WSD program was implemented and their days spent doing productive work and engaging in community involvement has been prolonged (semi-structured interview 2, respondents A-N & focus group 2). Women do not have enough time for rest and leisure once all the working hours are accounted for, they might even lack the time to participate in crucial decision-making structures such as the VWC. Udita (semi-structured interview 2, respondent I) explained; *I have to get up extra early, finish all my work at home and take care of the cattle, before going to work in the watershed.* The amount of chores the women have to carry out is the same as before but adding the extra work they put in as wage labor in the watershed, they have even less time for rest and personal well-being. This suggests time-poverty and the triple burden of women. The affected women however expressed that they were willing to make this choice and considered it to be worth their efforts since they could provide a better standard of living for their families (semi-structured interview 2, respondents A-N & focus group 7).

All these categories illustrates what FPE calls "Gender-based asymmetrical entitlements"; women have a disproportionate share of responsibilities for procuring resources for the household yet very limited rights (Rocheleau et al 1996:291). As illustrated in this case

women are responsible for agriculture, procuring resources and productive work, yet they have little access, control and power over the benefits from their labor.

## 6.5 Power and Decision-making: Gendered Power relations

This profile is not related to the FPE framework but was chosen in order to answer the research question connected to gender relations and specifically gendered power relations; *through which gender roles are created and maintained and through which men and women gain access to power and material resources or are allocated status within the society* (IFAD 2000:4).

In order to examine the decision-making power (and thus the power relations) men and women have over different aspects of everyday life, six different areas were selected as being especially interesting in the context of the CBNRM, namely, money, household, agriculture, children, education and health, these categories were developed from the PRA exercises and focus-group discussions.

*Money* has already been discussed somewhat, but interesting to note is that during an exercise regarding power and decision-making, women said that decisions regarding money were divided equally between the husband and the wife. Men on the other hand said that they had more than double the control over decisions regarding money than their wives (PRA 2). When this subject were discussed later in semi-structured interviews (semi-structured interview 2, respondents A-N) and in focus-groups (4&5) it became evident that women and men in a household do not share this decision-making power equally. Men can exercise their power over money freely but women cannot, the men are also able to enforce their decisions on their wives. For example, women who are responsible for taking care of the household could not freely decide what was necessary to buy for their household or implement that decision without the approval of their husbands (focus group 4&5). Women are moreover not able to control their own income; however they could invest it in the SHG's if they were members, but when it comes to taking a loan from the SHG's they did not have the power to do it independently despite the fact it was their own money being invested in the SHG's (semi-structured interview 2, respondents A-N & focus group 4).

Power and decision making in the *household* was according to the women divided equally but according to the men they had more power than their wives concerning household decisions.

Women have control over daily decisions in the household since they are the ones most commonly responsible for the daily maintenance and running of the household (PRA 2). But as mentioned they do not control the resources needed for procuring necessary buyable goods for the household (focus group 4). Tulsi (semi-structured in-depth interview 2B, respondent M) said that she could not buy new utensils without her husband's approval. They are however controlling the decisions regarding non-buyable goods such as water and fuel, which they also are responsible for procuring.

In *agriculture* women have the ability to make independent decisions since they are the main cultivators and the ones taking care of the fields while their husbands are away. Women indeed answered that they had more control and decision making power over agricultural issues than their husbands. However the men answered in the same fashion and said that they were the ones controlling the agriculture (PRA 2). The decision-making exercises (PRA 2) and focus groups (4&5) indicated that women do not have the power to decide over which crops is to be cultivated but they could however make independent decisions about how the daily work in the fields should be spent.

According to both men and women decision-making power regarding *children* was shared equally between the men and women (PRA 2). No contradictory information was given in this regard and several observations revealed that both women and men look after the children in their own household when they are able. Children are however still needed in the agricultural activities especially during the harvest, and Udita (semi-structured interview 2, respondent I) told us she had to decide which of her children was to stay at home from school to help out as her husband migrated for work on a seasonal basis. However, if her husband was home, he would help out rather than keep the children from school.

When it comes to *education* men expressed that they hold the decision-making power while women expressed it to be divided equally between men and women (PRA 2). According to Ramesh (semi-structured interview 4) there is a large problem with irregularity and teacher absenteeism in the village schools, this was also verified by visits to the school in the area (observation 8). When asked, women would like their daughters to have the same chance of education as their sons, but many of them do not want to send their daughters to live in the city since they fear that they will not be safe. Tanavi (semi-structured interview 2, respondent J) said that "*I would like to give my daughters more education, they are more responsible and*

*helpful than my sons.*" This is perhaps an indication that men do have a greater say regarding their children's education.

Regarding decisions over *health* issues both women and men answered that men have more decision-making power over this area than women (PRA 2). They decide when it is necessary to, for example, seek medical care. The reason for this is probably because seeking medical care is connected to costs and men are the ones controlling money. Also worth mentioning is that the most common loan from the SHG's concerns health issues such as buying medication or being able to give birth at a hospital and these loans are permitted or approved by men (semi-structured interview 5).

Another area worth examining connected to decision-making structures is the different local institutions, primarily the VWC and the village council. Women are represented in both these institutions but nowhere close to the same extent as men. The previous research concerning female participation in WSD, emphasizes that female participation is more than just the number of women attending meetings, even if they do attend the enabling environment to effective participation of women might be lacking and act as a barrier for women to express their opinions (Arya 2007, Pangare 1998 and d'Souza 1998). Respondents expressed that everyone was allowed to participate (Semi-structured interview 6, respondents A-E), but due to the power relations and dynamics between women and men in all other areas discussed women do not have the space or an enabling environment to express their opinions in these institutions, supporting previous research. During several observations (observations 4, 5&6) in these meetings, the space was dominated by men who sat closest to the moderator of the meeting, while the women sat further back, separate. Most women also covered their faces as a sign of respect for the men during these meetings and did not speak up. When a woman did speak it was usually an older woman who was constantly interrupted. The power relations and decision-making power between men and women in Jhabla is skewed in favor of men on the household level which is reinforced at the community level.



*Image 2. Village-meeting, Observation 6.*

*Men are closest to the moderator while women sit further back. Authors' photography.*

These categories all demonstrate the power relations between men and women and their ability to decide, influence, control and enforce personal power in the household and community. Men hold the power to control and enforce decisions in the household and on the community level; women do not have the same power and decision-making in important areas relating to their everyday lives as men despite their crucial role in the community and the WSD.

## 7 Concluding Remarks

The aim of this study was to understand the potential gendered direct and indirect effects of the CBNRM initiative the Jhabla watershed, this was done through a number of research questions connected to gender roles, access and control over benefits and the work-burden stemming from the watershed and gendered power relations in the community. They demonstrate how this planned development initiative affects women's and men's daily life in various ways, both intended and unintended effects.

The CBNRM in Jhabla have different effects, both indirect and direct, on men and women in the community. Gender roles are not static and the WSD has resulted in changes in gender roles in the community where traditional roles are beginning to erode. Men take on more responsibilities connected to the household and women now have access to productive work

and the opportunity to earn an income. Gender roles are however also affecting the WSD, where men feel hindered from participating in the physical activities in the watershed based on the valuation of their work and their productive roles in the community. Women are also hindered from effective participation in the WSD decision-making structures.

The WSD has resulted in an increased work-burden and time-poverty for women but also important benefits such as increased productivity, an increased opportunity to send children to school and increased incomes. However these benefits are not equally shared and divided among men and women in the community, women are the ones typically being left out despite that they carry a disproportionate share of the work-burden connected to the watershed and the main responsibility for the natural resource management. The skewed gendered power-relations results in women not having the power to influence important decisions regarding their everyday lives, both on household level and community level.

Decentralization of the management of natural resources to local communities has over the last decades become the answer to sustainability problems, problems with efficiency and equity in planned development initiatives concerning sustainable use of natural resources in both ecological and socio-economic terms. However, decentralization and CBNRM are faced with several challenges pertaining to the heterogeneity of societies and the different power-relations that exist in the societies. The different gender roles and unequal power-balance among women and men in this case present a challenge to the very purpose of CBNRM initiatives, namely to empower local communities and enhance equity. The WSD has failed to empower women in the community and to provide an equal division of benefits stemming from the watershed.

There is moreover a lack of understanding and research on the direct and indirect effects of CBNRM initiatives such as watersheds despite the impact these might have on people's lives. One can question the rationale of programs where people are expected to have the time to take part in activities aimed at community development but where the program itself lacks the measures to provide access to the benefits for the individuals who invest their time. This makes us question the sustainability of this particular WSD program but also CBNRM initiatives in general. Decentralization and CBNRM has become a trend in development thinking and the answer to numerous problems, but as this case-study demonstrates, it is time to question the sustainability of this trend and critically evaluate the gendered impacts such programs have on the individuals expected to take part. Further research is needed in order to



make these programs more sensitive to the dynamics and power relations that exist in targeted societies. This will hopefully result in increased equity and local participation can become what it really means; involving all members of a community, instead of being used merely as a slogan.

## 8 References

- Adhikari J.R. 2001. Community based natural resource management in Nepal with reference to community forestry: A gender perspective. *A journal of the environment*. 6(7) pp.9-22. Ministry of population and Environment.
- Agarwal, B. 1997. Environmental Action, Gender Equity and women's participation. *Development and change*. 28 pp. 1-44.
- Agarwal, B.2000. Conceptualising environmental collective action: Why gender matters. *Cambridge Journal of Economics*. 24 pp 283-310.
- Agarwal B. 2001. Participatory exclusions, community forestry, and gender: An analysis for South Asia and a conceptual framework. *World Development*. 29(10) pp. 1623-1648.
- Agrawal, A. and J.C. Ribot. 1999. 'Accountability in Decentralisation: A Framework with South Asian and African Cases'. *Journal of Developing Areas*. 33(Summer) pp. 473-502.
- Agrawal, A. and Ostrom, E. 2001. Collective Action, Property Rights, and Decentralization in Resource Use in India and Nepal. *Politics Society*. 29 pp485-514. Sage.
- Arya, S.L. and Samra J.S. 2007. Social and gender issues in watershed development in Shivalik foothill region in India. *Indo-US Workshop on Innovative E-technologies for Distance Education and Extension/Outreach for Efficient Water Management, March 5-9, 2007, ICRISAT, Patancheru/Hyderabad, Andhra Pradesh, India*.
- Arya, S.L. 2007. Women and watershed development in India: Issues and strategies. *Indian Journal of Gender studies*. 14(2) pp.199-230.
- Bardasi, E. & Bodon, Q. 2009. Working long hours and having no choice, time poverty in Guinea. *Policy Research Working Paper 4961*. The World Bank poverty reduction and economic management network, gender group & human development network.
- Bardhan P. 2002. Decentralization of governance and development. *Journal of economic perspectives*. 16 (4) pp. 185-205.
- Boserup, E. 1970. *Women's role in economic development*. London: George Allen & Unwin.
- Bryman, A. 2008. *Social Research Methods*. Oxford: Oxford University Press
- Cohen, S.S., Dyckman, J.W., Schoenberger, E., Downs, C.R. 1981. Project on managing decentralization. Decentralization: A framework for policy analysis. *Institute of International Studies*. Berkeley: University of California.
- Connelly, M.P., MacDonald, M., Li, T.M., Parpart, J.L. 1996. *Theoretical perspectives on feminism and development*. In: *Theoretical perspectives on gender and development*. The commonwealth of learning 1996. Vancouver, Canada.
- Creswell, J.W. 2009. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, Calif: Sage

- Creswell, J.W. 2012. *Qualitative Inquiry & Research Design, Choosing Among Five Approaches*. Thousand Oaks: Sage
- Dash, P.K., Dash, T. and Kara, K.P. 2011. The role of local institutions in sustainable watershed management: lessons from India. *Development in practice*. 21(2) pp.255-268.
- Dressler, W., Büscher, B., Schoon, M., Brockington, D., Hayes, T., Kull, C.A., Maccharty, J., Shrestha, K. 2010. From hope to crisis and back again? A critical history of the CBNRM narrative. *Environmental conservation*. 37(1) pp5-15. Foundation for environmental conservation.
- FAO 1995. Gender analysis field tools. Accessed March 25th 2014 from <[http://www.fao.org/docrep/x5203e/x5203e09.htm#P2201\\_207503](http://www.fao.org/docrep/x5203e/x5203e09.htm#P2201_207503)>
- FAO.2014. *Why Gender?* Accessed April 15<sup>th</sup> 2014 from <<http://www.fao.org/gender/gender-home/gender-why/why-gender/en/>>
- FSD International.2013. "Country profile: India" Accessed 2013-11-15 from <<http://www.fsdinternational.org/country/india/weissues>>
- Government of India. 2008. Common Guidelines for Watershed Development Projects.
- Gray E. and Srinidhi A. 2013. Watershed Development in India: Economic valuation and adaption considerations. *World Resources Institute*. Working paper.
- Hope, R. A. 2007. Evaluating Social Impacts of Watershed Development in India. *World Development*. 35(8) pp.1436–1449
- Hovorka, A.J. 2006. The no.1 Ladies' Poultry Farm: A feminist political ecology of urban agriculture in Botswana. *Gender, Place & Culture: A journal of feminist geography*. 13(3) pp.207-225.
- IFAD. 2000. *An IFAD approach to gender mainstreaming*. U Quintily, Rome, Italy.
- Indo-German Watershed Development Programme. 1992. *Guidelines*. Accessed March 17th 2014 from <<http://www.lupinfoundation.in/content/indo-german-watershed-development-programme-maharashtra>>
- Joshi, P.K., Vasudha, P., Shiferaw, B., Wani, S.P., Bouma, J., and Scott, C. 2004. Socioeconomic and policy research on watershed management in India: Synthesis of past experiences and needs for future research. *Global theme on Agroecosystems Report no7*. International Crops Research Institute for the Semi-Arid Tropics. Andhra Pradesh, India.
- Kaplan, B. & Maxwell, J.A. 1994. Qualitative research methods for evaluating computer information systems, in *Evaluating Health Care Information Systems: Methods and Applications*, J.G. Anderson, C.E. Aydin, and S.J.Jay (eds), CA: Sage, p.45-68.
- Kerr, J. 2002. Watershed development, environmental services and poverty alleviation in India. *World Development*. 30(8) pp.1387-1400.

- Kerr, J., Pangare, G. and Pangare, V.L. 2000. An evaluation of dryland watershed development projects in India. *Environment and Production Technology Division*. International Food Policy Research institute. Washington D.C. USA.
- Mann R.S in K.S. Singh. 1993. Tribal Ethnography, Customary Law and Change. *Anthropological Survey of India*. New Delhi, India.
- March, C., Smyth, I., and Mukhopadhyay, M. 1999. A guide to gender-analysis frameworks. *Oxfam*. Banbury Road, UK.
- May, T. 2002. *Qualitative Research In Action*. London: Sage
- Meinzen-Dick, R. & Zwartveen, M. 1998. Gendered participation in water management: Issues and Illustrations from water users' associations in South Asia. *Agricultural and Human Values*. 15, pp. 337-345.
- Mikkelsen, B. 2005. *Methods for Development Work and Research, (Second Edition). A New Guide for Practitioners*. London: Sage
- Mita, A. 2007. The status of women among the scheduled tribes in India. *The Journal of Socio-Economics 2007*. Department of Economics, University of Oklahoma. United States.
- Mohanty, R. 2004. Institutional Dynamics and Participatory Spaces: The making and unmaking of participation in local forest management in India. *IDS Bulletin 35.2, New democratic spaces?*
- National Bank for Agriculture and Rural Development. 2006. Indo-German Watershed Programme in Maharashtra for sustainable regeneration of natural resources. *Alco Corporation*. Mumbai, India.
- Palanisami, K. & Suresh Kumar, D. 2004. Impact Assesment of Select Watersheds in Coimbatore District of Tamil Nadu. *National Bank for Agriculture and Rural Development*. Mumbai.
- Pangare, V.L. 1998. 88a Gender issues in watershed development and management in India. *Agricultural Research and Extension Network*. Network paper no 88.
- Ragin, C.C. & Amoroso, L.M. 2010. *Constructing Social Research, The Unity and Diversity of Method*. Thousand Oaks: Pine Forge Press
- Raha, D., Osbahr, H. and Garforth, C. 2012. Does watershed development implemented through public private partnership empower women? A Case review from Rajasthan, Western India. *Journal of cleaner production*. 60 pp.18-33.
- Reddy, V. 1999. A Blow to Gender Equality Supreme Court Judgement on Manushi's Case on Women's Land Rights. *Manushi Org India*. 113.
- Reddy, R.V., Reddy, M.G., Galab, S., Soussan, J. and Springate-Baginski. 2004. Participatory watershed development in India: Can it sustain rural livelihoods? *Development and change*. 35(2): 297- 326.

Ribot, J.C.1999. Decentralization, Participation, and Accountability in Sahelian Forestry: Legal Instruments of Political-Administrative Control. *Africa: Journal of the International African Institute*. 69(1) pp. 23-65

Rizvi S.H.M in K.S. Singh. 1993. *Tribal Ethnography, Customary Law and Change*. Anthropological Survey of India. New Delhi, India.

Rocheleau, D., Thomas-Slayter, B. and Wangari, E. 1996. *Feminist political ecology, global issues and local experiences*. London: Routledge

Seva Mandir. 2011. *Indo-German watershed development programme, standard project report format*. Excel.

Seva Mandir. 2012a. *Feasibility Study Report. Jhabla watershed (1350ha). Indo-German watershed development program*.

Seva Mandir. 2012b. *Indo-German watershed development program. Livelihood plan*.

Scheyvens, R. & Leslie, H. 2000. Gender, ethics and empowerment - Dilemmas of development fieldwork. *Women's Studies International Forum*. 23(1) pp.119-130.

Schroeder, R.A. 1997. *Shady practices: agroforestry and gender politics in the Gambia*. Berkeley University of California press, Berkeley.

Sen, A.1992. Missing Women. *BMJ: British Medical Journal*. 304(7) pp.587-588.

Shah, A. 2000. Natural resource management and gender: Reflections from watershed programmes in India. *Indian Journal of Gender Studies*. 7(83) pp.83-91.

d'Souza, M. 1998. 88b. Watershed development – Creating space for women. *Agricultural Research and Extension Network*. Network paper no 88.

Srigiri, R.S., Chennamaneni, R., and Hagedorn, K. 2003. Equity and Poverty issues in watershed development projects – A case study of Impact assessment on marginal farmers and the landless. *Conference on International Agricultural Research for Development*. Deutscher Göttingen. Humboldt Universität zu Berlin.

Sultana, F. 2007. Reflexivity, positionality and participatory ethics: Negotiating fieldwork dilemmas in international research. *ACME: AN International E-Journal for Critical Geographies*,6(3) pp.374-385.

Torri, M.C. 2010. Power, Structure, Gender Relations and Community-Based Conservation: The Cawswe Study of the Sariska Region, Rajasthan, India. *Journal of International Women's Studies*. 11 pp.1-18.

Turton, C. 2000. Enhancing livelihoods through participatory watershed development in India. *Overseas Development Institute. Working paper 131*.

Upadhyay, B. 2005. Women and natural resource management: Illustrations from India and Nepal. *Natural Resources Forum*. 29 pp.224-232.

UN Women. 2001. “*Important concepts underlying gender mainstreaming*”. Accessed March 16th 2014 from <<http://www.un.org/womenwatch/osagi/pdf/factsheet2.pdf>>

USAID.2011. Tips for conducting a gender analysis at the activity or project level. Working draft, USAID.

Vainio-Mattila, A. 2001. Navigating gender. A framework and a tool for participatory development. *Ministry for foreign affairs, department for International Development Cooperation*. Helsinki, Finland

World Bank 2001.

<<http://www1.worldbank.org/publicsector/decentralization/political.htm>> Accessed 2014-03-24

World Bank 2012, PSIA Sourcebook.

<<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTSOCIALDEVELOPMENT/EXTTOPPSISOU/0,,contentMDK:20590885~menuPK:1443270~pagePK:64168445~piPK:64168309~theSitePK:1424003,00.html>> Accessed 2014-04-11

Yin, R.K. 2009. *Case Study Research. Design and Methods*. Sage Publications, Thousand Oaks, 4th ed.

## 9 Appendices

### 9.1 Appendix A. Semi-structured interview 1, respondents A-J.

Semi-Structured Interview 1, Respondents A-J			
Conducted in Jhabla 21/9-2013			
Respondent	Name	Sex	Age
A	Vikram	Male	30-40
B	Lilashankar	Male	60-70
C	Kamal	Male	30-40
D	Mahinder	Male	40-50
E	Kumar	Male	20-30
F	Sunita	Female	30-40
G	Swati	Female	50-60
H	Devi	Female	20-30
I	Neela	Female	30-40
J	Tara	Female	20-30

#### Interview Guide

1. Name and age of head of household.
2. Number of adult members of the household?
3. Earning members of the household?
4. Have you been able to produce more crops since the introduction of the WSD?
5. Number of household members involved in the watershed activities?
6. Has the work-burden increased since the introduction of the watershed?
7. If yes, please estimate by how many hours per day.
8. Months spent on watershed activities per year?
9. Has the WSD in any way changed your life?
10. How much do you put in to SHG's every month?
11. Has your household borrowed money from a self-help group?
12. If yes, for what purpose?
13. What was the interest and how much time did you have to repay the loan?

## 9.2 Appendix B. Semi-structured interview 2, respondents A-N.

Semi-Structured Interviews 2, Respondents A-N Conducted in Jhabla and Mondungri 8/10, 9/10 and 10/10 2013			
Respondent	Name	Sex	Age
A	Chota	Female	20-30
B	Meera	Female	30-40
C	Ajeeta	Female	30-40
D	Laxmi	Female	40-50
E	Manisha	Female	40-50
F	Shivani	Female	30-40
G	Meeta	Female	20-30
H	Pooja	Female	30-40
I	Udita	Female	30-40
J	Tanavi	Female	40-50
K	Swarna	Female	50-60
Indepth Interview 2B respondents M-L			
Respondent	Name	Sex	Age
L	Chandra	Female	20-30
M	Tulsi	Female	30-40

## Interview Guide

1. What do you use water for?
2. How far is it to the water source?
3. How many times per day do you go to fetch water?
4. Where do you get the money from that is invested in the SHG?
5. If you need something for the household, can you borrow from the SHG without consulting other members of your household? If you do have to consult someone, who do you have to consult? Does everyone in your household eat at the same time?
6. What are the benefits of being part of a SHG?
7. Has your workburden increased since the introduction of the watershed?
8. Do you receive the same amount of money/pay for watershed men as men do?
9. While doing watershed work, is there something you would like to have while working, such as free food or child care?
10. Do you have children? If yes, how many?
11. Has your life changed in any way since the introduction of the watershed?
12. Which benefits do you get from the watershed?
13. What kind of future would you like your children to have? What is important?
14. For how many years would you like your children to stay in school?
15. What would you say is a woman's role and duties in Jhabla/Mordungri? What would you say is a man's role and duties in Jhabla/Mordungri?



In depth semi-structured interview with respondents L & M.

1. Do you have more livestock now than before the introduction of the watershed?
2. Can you grow more crops now than before the introduction of the watershed?
3. Do you work more now than before the introduction of the watershed?
4. Do you earn more now than before the introduction of the watershed project?
5. Tell us more about how your life and your family's situation has changed because of the watershed.

### 9.3 Appendix C. Semi-structured interview 3, respondents A-E.

Semi-structured interview 3, Respondents A-E			
Conducted during VWC meeting in Jhabla with VWC members 21/10-2013			
Respondent	Name	Sex	Age
A	Ashok	Male	30-40
B	Dinesh	Male	40-50
C	Gopal	Male	20-30
D	Gita	Female	30-40
E	Jasvinder	Female	40-50

### Interview Guide

1. Why are so few men involved in the watershed activities (physical construction)?
2. What do you think can be done about it?
3. What do you feel are the main benefits from the watershed, personally and for the community?
4. What will happen when the entire area has undergone treatment?
5. What do you think are the main changes before and after the introduction of the watershed project?
6. How many members are in the village watershed committee?
7. Would you say everyone has an equal chance of having their voice heard during VWC meetings?

### 9.4 Appendix D. Semi-structured interview 4.

Semi-structured interview 4			
Conducted in Jhabla 28/9, 10/10, 4/11-2013			
Name	Sex	Age	Occupation
Ramesh	Male	30-40	Para-worker for Seva Mandir

## Interview Guide

1. Tell us more about the Gram Vikas and the Caste Panchayat, what are they, who is involved, how are people elected? What is the gender division?
2. Tell us more about the Village Watershed Committee
  - a) who is involved?
  - b) what decisions are taken in the committee
3. Can anyone participate in the Village Watershed Committee
4. Who is employed in watershed activities, how are they chosen?
5. Why do you think more women are involved in the physical activities?
6. Do men and women get equal pay for their work with the watershed?
7. Do fewer men migrate because they can now find work in the watershed?
8. What will people work with when the watershed implementation phase is over?
9. How have people living in Jhabla/Mordungri but who are not involved in the watershed benefitted?
10. What is your opinion on SHG's?
11. What kind of property and inheritance rights do men/women have?
- 12.

### 9.5 Appendix E. Semi-structured interview 5.

Semi-structured Interview 5			
Conducted in Jhabla and Mondungri 8/10, 22/10			
Name	Sex	Age	Occupation
Hiralal	Male	40-50	Accountant for the SHG's

## Interview Guide

1. How many groups are there?
2. How many women from outside the watershed area are in SHG's?
3. Do you register for what reason loans are taken?
4. Are there any differences between the male group and the female groups?
5. In what way do you think being part of a SHG affects the women and men's lives?

### 9.6 Appendix F. Semi-structured interview 6, respondents A-E.

Semi-structured interviews 6, respondents A-E			
Conducted during village meeting 23/9-2013			
Respondent	Name	Sex	Age
A	Mandeep	Male	30-40
B	Rajeev	Male	40-50
C	Sundar	Male	30-40
D	Vasanta	Female	40-50
E	Shakuntala	Female	30-40

## Interview Guide

1. Can anyone participate in village institutions? Why/why not?
2. Is everyone allowed to participate in village institutions? Why/why not?
3. What changes have you seen in the village because of the introduction of the watershed activities and the Village Watershed Committee's work?
4. Do you know how people are employed to work with the watershed? Do you work/have you worked with the watershed?
5. Why do you think more women than men work with the physical activities connected to the watershed?
6. Have you and your family benefitted from the watershed?
7. What about people that live in the area but have not worked with watershed activities or have had their land treated, do you think that they benefit from the watershed project?

### 9.7 Appendix G. Participatory Rural Appraisal 1-3.

Participatory Rural Appraisal Exercises				
Number	Date	Participants		Themes
		Male	Female	
1	14/10-2013	8	15	Labour division in agriculture
2	21/11-2013	10	10	Power and decision-making
3	31/10-2013	6	9	Labor division of household-work

#### 9.7.1 Execution of Rural Appraisal Exercises

##### **Division of labor in agriculture Rural Appraisal 1**

This exercise was conducted with the help of a gatekeeper from Seva Mandir, the implementing organization behind the watershed development program. She was invited as a guide for this exercise as she has been working with the village for 20+ years and she was thus considered a person the villagers trusted. The group of 23 women together listed every kind of work connected to agriculture that they could think of and thus came up with the list above. The paper used was then divided into four columns marked with symbols for women, men, girls and boys. All women were then allowed to make a mark in the boxes for who did what and what is presented below is the summary of all marks in boxes and a discussion the women had following the exercise.

Labor division in agriculture	♀	♂	Young ♀	Young ♂
Planting	X+	X-	X	
Gather the harvest	X+	X-	X	
Cutting fodder and greens	X+	X-		
Peeling corn	X		X	
De-seeding and drying	X	X	X	
Sorting out waste from yield	X			
Storage	X			
Sell crops	X	X		
Organize yield and fodder	X		X	

**Decision-making power exercise Rural Appraisal 2**

In order to examine the control and decision-making power (and thus the power relations) men and women have over different aspects of everyday life, seven different areas were selected as being especially interesting in the context of the CBNRM, namely, money, household, agriculture, children, education and health, these categories were developed from the rural appraisal exercises and focus-group discussions.

The exercise was conducted individually and the person doing the exercise was given ten small stones and was then asked to place them on a board (like the one below) drawn up on a piece of paper. If the man decided for example everything about money, ten stones were put in the box man/money. If decision-making power was shared equally, 5 stones were placed in man/money and five in woman/money etc.

	Money	Household	Marriage	Children	Education	Agriculture	Health
Man							
Woman							

*Questions used in decision-making power exercise:*

Money: Who decides what should be bought? Do both men and women decide over their own income?

Household: Who decides what needs to be done in the household? Who decides what's for lunch or dinner?

Marriage: Who decides how many children to have? Who decides where to live? (\*One translator asked “who has the final say in who your son or daughter will marry?”)

Children: Who determines children's needs? Clothing? Health?

Education: Who decides which school to send children to? Who decides for how long children will stay in school (years)?

Agriculture: Who decides which crops to grow? Who decides how much of the yield should be kept and how much should be sold?

Health: If someone is sick (needs medical attention), who decides what to do? (If respondent was a woman) did you give birth in a hospital/health clinic? Could you decide where you wanted to give birth?

### **Division of household work and additional work Rural Appraisal 3.**

These exercises were conducted with the help of a gatekeeper from Seva Mandir, the implementing organization behind the watershed development program. She was invited as a guide for this exercise as she has been working with the village for 20+ years and she was thus considered a person the villagers trusted. The group of 15 persons together listed every kind of household work that they could think of and thus came up with the list below. The men and women then together discussed every aspect and put a mark in the box indicating who did what. When the first round of discussions were done, there were only marks for women and the one for men, and one woman raised her voice saying that children help out when they are not in school, thus the discussions were continued and marks were placed indicating "Help out when he/she is not in school".

The second exercise has not been greatly used in the analysis but was rather use to cross-check information found in secondary sources. The exercise was conducted with the same group of people but the categories were listed by the researchers.

	Male	Female
Sell jatropha seeds in market	no seeds yet	
Jatropha seeds used for soap	Not enough seeds yet, but women will do the work in the future	
Sell agricultural produce in market	X	
Owns property/home	X	
Controls household income	X	X
Goes to market to buy things	X	
Who inherits?(Property/assets)	X	

9.8 Appendix H. List of focus groups 1-7.

Number	Date	Participants		Themes
		Male	Female	
1	14/10-2013	6	5	Labor division in agriculture, conducted following Village Meeting
2	23/10-2013	3	8	Labor division in physical watershed work, conducted following Village Meeting
3	23/11-2013	20	6	Discussion of new tasks and division of burdens following implementation and fulfilling of WSD goals, conducted during Village Meeting
4	21/11-2013		23	Power and decision-making, women only (10 of which also participated in PRA 2)
5	21/11-2013	14		Power and decision-making, men only (10 of which also participated in PRA 2)
6	8/12-2013		15	Discussion on benefits stemming from the watershed, conducted with female SHG
7	10/12-2013	2	5	Economic benefits from the WSD and views on the future, conducted during our last visit with a group attending National Children's Day celebration in Jhabla

## 9.9 Appendix I. Income levels before and after introduction of watershed development project

This exercise was carried out individually where the respondent was given two small stones. If income was the same before and after, one stone was put in each box, if income had been more before, both stones were put in the before box and if income was higher after (present time) the introduction of the watershed development program, both stones were put in this box. This exercise then inspired focus group 7.

Income from	Before WSD	After WSD
Agriculture		
Forest		
Wage Labor		
No. Of livestock		

#### 9.10 Appendix J. List of observations 1-8.

Observations		
Number	Date	Specifications
1	11/9-2013	WSD construction site, Jhabla
2	8/10-2013	SHG meeting, Female Group Jhabla
3	12/10-2013	WSD construction site, Mondungri
4	21/10-2013	VWC meeting, Jhabla
5	21/11-2013	VWC meeting, Jhabla
6	23/11-2013	Village Meeting, Jhabla
7	8/12-2013	SHG meeting, Female Group Jhabla
8	9/12-2013	Visit to a local public shool, covering Jhabla and Mondungri