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Investment in development of water supply and sanitation facilities benefit empowerment of women

A Minor Field Study in rural Odisha, India

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Abstract

This study examines if investments in water and sanitation facilities can empower women through freeing up their time. Qualitative data from 108 surveys have been gathered from a case study in rural villages in Odisha, India. Empowerment was divided into four dimensions based on 24 variables, which included Decision-making, Power to perform activities independently, Awareness of social issues and Attitudes towards husband beating. The result showed a direct relationship between time spent on water and sanitation activities and women's awareness. This relationship was the opposite of what was expected since time spent on water and sanitation increased women's awareness. An indirect effect was also found where women that spent less time on water related activities increased their time spent on leisure, where leisure affected women's level of empowerment negatively. One explanation to the result could thus be that women get more empowered as long as they are engaged in any activity instead of leisure. In conclusion, this paper confirms previous research of how women are dependent on institutions and organizations in order to break structural norms and increase their agency.

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1. INTRODUCTION

Women have since decades been recognized as the important factor to enhance economic growth. The relationship between women's empowerment and the economic development can be seen as bidirectional where development alone can drive down inequality. In the other direction a continuing of discriminating women can hinder development and hence it is argued that empowerment further accelerate development (Sen, 2001). It is also argued for how the focus too long have been on the efficient gains of including women in the development process, while Sen argues for how women's well-being should be seen as the primary goal instead of an instrument for other interests.

Recent research has shown that improvement in women's basic needs or access to financial resources do not directly affect the structural gender norms, but at the same time women living with no agency or opportunities to improve their own living standards face difficulties to empower themselves. A woman living in poverty has constraints on her freedom of choice. With increased resources—as increased time and increased access to basic resources—she will have the capability to act upon more choices.

One factor that has been debated is the direct relationship between freedom in allocation of time and empowerment. With this paper I seek to investigate if freeing up a woman's time will affect women's level of empowerment. This objective is motivated by research showing that without freedom in allocation of time, women face difficulties in achieving opportunities to get empowered. The aim is not to focus on macro policies, instead it will give statistical result of how organizations and improvements in the everyday lives of women can make significant contributions to the empowerment process.

I will present the result from 108 surveys conducted through a case study in Odisha, India, during the spring of 2016. Due to complex and multi-dimensional nature of empowerment, time use surveys and detailed household information have been gathered. Women empowerment is measured through proxy variables that examine different dimensions including participation in decision-making, power of independency, awareness in society and attitudes towards wife beating. With unique environment of a simplified case the study I intend to shed light over how policy makers and organizations in the area can approach the difficulties there are to reduce the present gender gaps. Additionally, by actually living in the villages and making observations of

real life there, will enable me to get a deeper understanding on the result and hence give a more in-depth analysis and conclusion.

The structure of the paper is as follows. In the following part I will present a background of women's emerged inclusion in development policies in order to understand the present problems and opportunities in the field. Subsequently, previous literature in the field is reviewed followed by a presentation of research questions and hypothesis. Lastly, the method is discussed and the result is presented together with analysis and conclusions of the paper.

2. BACKGROUND

Women empowerment is a complex and broad concept without any general applicable frameworks (Malhotra et al., 2002). With this in mind, a review will demonstrate how women's significance has changed in policy discourses and institutional structures. Hence, through an in depth overview the aim is to gain a deeper understanding of women's situation in development countries today.

2.1. Emergence of women in development

Ester Boserup's (1970) publication *Woman's Role in Economic Development* made her a pioneer in the field when she challenged the existing ideas about how women were equal, or even beneficial, in development and growth compared to men (Çağatay et al., 2004). Instead, she argued for how women were marginalized in the process. Boserup stated that women should be valued as rational economic agents who society could not afford to leave out of the development process. She further described how preceding policies and measures had underestimated women's contribution to the economy (Kabeer, 2003).

These ideas contributed to the conceptual perspective Women in Development (WID) (Kabeer, 1994). WID emphasized women's economic and productive roles and draw attention to the male-biased approach in current policies and development project designs. Earlier concepts had used the western ideology of a household, where men were seen as family breeders and women were identified as only receivers of welfare programs. However, WID was criticized to not issue the real structural problems since it mainly focused on what have been called practical gender needs such as access to water or increased housing (Beneria et al., 2015). It was argued that unequal gender roles and relations instead were the cause of women's exclusion and hence, the issues did not reach any breakthrough in policies. (Çağatay et al., 2004; Kabeer, 2003)

Beneria and Sen (1981) analyzed Boserup's theories and the fundamentals of WID, which later resulted in the new perspective Gender and Development (GAD). Focus shifted from women towards gender with motivation to emphasize how both men and women were contributing towards reducing the gender gap. Feminist economics could put the subject on agendas of policies when they through research proved the connections between gender and macroeconomics (Çağatay et al., 2004). GAD went a step further than previous approaches,

desiring to eliminate any form of structured discrimination such as land rights or domestic violence (Rathgeber, 1990).

GAD was originally recognized during the 3rd of the four UN World Conference on Women in 1985, Nairobi. It was discussed how program implemented by IMF and the World Bank, with concepts of neoliberalism, tended to marginalize and discriminate women more in the developing countries than other parts of the world. The four Global Women conferences, UN (1974, 1980, 1985, 1995) spread its discussions to the World Bank and IMF, hence influencing the world's economic policies (Kabeer, 2003). During the 1990's this approach evolved to NGO's, which adopted the mindset of rights with a larger focus also on women's sexual and reproductive rights. Perspective of economic development changed to a more holistic view of social development, but the economic growth remained as one of the main driving forces.

2.2. Introducing capabilities

Neoclassic theories had during decades conceptualized economic development as synonymous with growth (Çağatay et al., 2004). The perspective had strong connections with how GNP measured country's level of development (Beneria et al., 2015). These fundamental theories got questioned by Nobel laureate Amartya Sen in the early 1980's. Sen instead argued that the level of human 'capabilities' among its population should measure a country's development. The concept of 'capabilities' was referring to how resources and abilities could achieve valued ways of 'being and doing' (Kabeer, 2003). It was believed that expanding the productivity of goods and services in a country should not be a goal with human lives as means to obtain those objectives. Thus, he argued that human lives in itself should be seen as the ultimate concern or ends through enhancing their capabilities with development as means (Sen, 2003). He also distanced his theories from the traditional neoclassic theories of utilities through arguing that utilities are only one perspective to look at happiness and fulfillments but it ignores freedom and hence concentrates only on achievements. Through the research of Amartya Sen, poverty was no longer seen as only the state that poor people lived in but also their lack of opportunity to choose another way of living.

United Nations Development Programme (UNDP) introduced Human Development Index (HDI) in 1990, which was developed with help from Sen. The measure combined Gross National Product (GNP) with life expectancy and educational accomplishment. When only using GNP there was a positive relation between developments and increased per capita—but to

which extent it had led to human development varied among countries since it could be unequally distributed among the population. HDI instead could measure socio-economic progress at the same time as it indicated of average achievements in human development for both sexes.

However, the *Human Development Report* (*HDR*) published by UNDP in 1990 was accused of barely touching gender issues (Kabeer, 2003). Instead, the HDR introduced in 1995 approached Sen's theories further when stating that the purpose of development was to "enlarge all human choices, not just income" (UNDP, 1995, p. 11) as well as argue that removing gender inequality had little to do with national income. Poverty was defined to have a woman's face, recalling the fact that of 1.3 billion people living in poverty—70 percent of them were women (UNDP, 1995). This was further extended in the *Human Development Report* of 1995 by the introduction of Gender Development Index (GDI) and Gender Empowerment Measure (GEM).

Mainstreaming Gender Equality (MGE) is the most recent development approach aimed at gender inequalities. It originates from the 4th UN World Conference on Women in Beijing, China in 1995, where 189 states agreed that inclusion of both women and men would be present in all development projects and policies. This solution was stated to be the only way to enhance progress in a nation's economic growth and development (Rathgeber, 1990). In 2001, the World Bank likewise launched a gender mainstreaming strategy (Dollar et al., 1999, Klasen 1999). The importance of the issue was emphasized through evidence from how research showed that those economies that include women in their development experience more rapid growth (World Bank, 2012).

Gender mainstreaming has not yet succeeded with its objectives today as women still lack the rights they should have across the globe—including freedom from violence and rights to reproductive health, as well as participation in the politics and economic.

2.3. Women and double work

The evidence that women are important for economic development has during the last decades—and is also up to today—mainly focusing on the efficiency gained when including women. This efficiency approach has in many development countries lead to women's inclusion in the market force, which give them an income but do not directly solve the equality issue and structural gender roles (Kabeer, 2008).

When computing a country's GNP only those activities included in System of National Accounts (SNA) are included. However, in poorer countries a large part of the activities take place outside the formal sector including informal, subsistence and reproductive activities. These tend to be of irregular nature as well as hard to measure and thus are often overlooked in official data.

2.4. Definition of women empowerment

Women empowerment is a broad concept including several dimensions that can arise on both an individual and collective level (Malhotra et al., 2002). Given this complexity, a review shows both diversity and commonality among current definitions. The World Bank uses the broad definition of empowerment as the expansion of freedom of choice and action. Hence, the issues of gaining control and power over resources and decisions is the focus on many as well as accounting for structural inequalities (World Bank, 2012).

There are several possible difficulties in defining empowerment where one of them is the necessary differentiation between goal and process. With respect to this factor, Kabeer (1999) has developed an extended framework with a process that consists of three interrelated dimensions in the ability to make strategic life choices: Resources, Agency and Achievements. She further offers a useful definition of empowerment that is common to other definitions and can be applied in broad development contexts (Kabeer 1999, p. 437):

> The expansion in people's ability to make strategic life choices in a context where this ability was previously denied to them.

Malhotra et al. (2002) uses this definition and further define two imported elements that distinguish empowerment from other concepts where the first one is its nature of a process. The second element is human agency and choice, which refers to how the women themselves need to be active participants in the empowerment process. If there are structural changes that treat women as recipients instead of agents the woman will not be empowered. This implies how women not necessarily need to get empowered by social, economic and political resources. Hence, they can be crucial but not always sufficient unless the woman recognize and utilize these resources through her own interest. Furthermore, diversity in application is crucial and the framework requires adaption to the local context. It is further emphasized that women's empowerment should be measured from the context-specific nature of environment since

variables that empower women have different impacts for their ability to take strategic life choices across different regions (Malhotra et al., 2002).

Another difficulty in defining the concept is to understand how women are a heterogeneous group. They all have their own perspectives of what empowerment is for them, which further make it more difficult to agree over one coherent definition in the literature (Rahman et al., 2009).

3. LITERATURE REVIEW

3.1. Choice of theoretical framework

Amartya Sen describes development as an expansion of people's life choices (Sen, 2003). The approach distinguishes between 'capabilities' and 'functionings' where the latter refers to what an individual manages to do or be while capabilities reflect the combination of functionings that actually can be achieved (Sen, 2003). Hence, the capability approach sees a person as 'active' where the achievements depend on the utilization of resources generated in a growing economy, as institutional arrangements and government policies. Sen argues that policies should aim at expanding these capabilities of people. Further, the approach makes it possible to evaluate the well-being of individuals as well as the effectiveness of policies (Beneria et al., 2015).

Sen's capability approach is frequently utilized in studies of gender inequality and women empowerment, among them *World Development Report 2012: Gender Inequality and Development* (World Bank, 2012). In this study, Sen's capability approach has been extended with Kabeer's three-dimensional theory of empowerment. The fundamentals of Resources, Agency and Achievements can be found in Sen's work, where resources and agencies refer to capabilities and achievements to functionings (Sen, 1985).

Out of Kabeer's perspective, agency is the actions in which an individual has the ability to define one's goal and act upon them, hence make a choice. In order to have any agency, it implies the possibility of alternatives defined as resources. The resource dimension implies both the means through which agency is exercised, but also how these resources are distributed among society. Drawing on Sen's theories resources can be seen as an individual's capabilities to exercise choice. These resources can exist as economic—or material resources but in a broader sense also include

human and social resources containing of different relationships and institutions as households, market, state and community. These include firstly the actual allocations but also the future and expected claims (Kabeer, 1999). Access to these reflects the social norms and rules within an institution in which these resources are distributed and exchanges within different contexts. Achievements are the outcomes of agency, rather than people's capabilities. Hence, achievements can also be described as 'welfare' and is the most common way through measuring empowerment on macro level, such as political participation, legal reform and economic security (Malhotra et al, 2002).

Combining Sen's and Kabeer's theories, an important distinction is how the lack of opportunities to act freely only can be described as disempowered if it refers to any constraint on ability to choose (Kabeer, 1994). Hence, if the choices are made out of laziness, incompetence or individual preferences it is not an empowering decision. A woman who exercises the ability to make strategic life choices may be perceived as powerful, however she will never be empowered according to Kabeer's framework if she was not disempowered in the first place (Kabeer, 1999).

3.2. Empirical research

Despite empowerment's complex nature there is a broad amount of empirical literature existing in the field. A large share of previous research on women empowerment focuses on the effect of financial resources. Results from these studies have been diversified where Garikipati (2008) found no significant effect of microfinance on empowerment while other found the contrary (Bali Swain et al., 2009). The common factor has thus been argued that unless a woman has the ability to break existing norms there is a risk that other members in the household has power to decide over her resources.

Cheston et al. (2002) point out how an increase in women's efficiency in traditional roles or access to resources can increase their self-confidence, but might not be empowering. However, it can be a contributor to women's willingness to challenge social injustices. Malhotra et al. (2002) discuss how it is important to distinguish if improved livelihood is a goal in itself or a process

towards empowerment. Hence, it is important to divide the process into different components to be able to understand the process.

Acharya et al. (2010) used National Family Health Survey (NFHS-3, 2006) to evaluate which factors that influenced Indian women's decision making within the household. They found that the autonomy of decision-making increased positively with the respondent's age, employment and number of children. They also found results indicating that wealthier women were less likely to have autonomy to make decisions on their own health care.

It is argued from Mason (2005) that empowerment is strongly affected by collective actions, which include changes in shared values, norms, beliefs and traditions. Opportunities facing only one woman may fail if the culture remains unchanged. Through a five-country study it was found that empowerment in domestic sphere is mainly of social and cultural structures than individual preferences. Hence, women's mobility can be a state of empowerment in some contexts, such as in Bangladesh with its Islam culture, whereas in a Jamaican context it is not culturally restricted and thus has little relevance.

Kishor et al. (2008) measured women empowerment indicators in 23 developing countries and found that the most common decision-making done by the woman herself or together with husband in these countries were small household purchases and their own health care. Variables that increased a woman's decision making were an increase in age, education of woman, urban status and employment status.

3.2.1. Freeing up women's time

Becker (1965) pioneered in the field of relationship between time and employment in developing countries with "A theory of the allocation of time." Becker's theories have further been discussed by Gronau (1977) who extended the framework with research on relationship between home-production and time-allocation through including the effect of leisure.

Garikipati (2008) used time use surveys when analyzing the effect of microcredit and empowerment. He tried to fill in the gap in previous empirical research where it was found, as earlier mentioned, that microcredit had positive impact on empowerment if the resources were used in the right way. Through 291 surveys in two villages in rural India it was found that

microcredit had little effect on women's time use but it helped their men to move away from low-wage work into self-employment.

There is limited research concerning how water access affects households, where a majority utilizes indirect measurements for empowerment. Devoto et al. (2012) found that households that got connection to water pipes in Morocco did not increase the amount of time spent on market activities. Instead time was spent on leisure, which could lead to decrease in stress and household conflicts. A majority of previous case studies show that women with increased access to water do not take up any empowering activities (WaterAid, 2001; Ivens, 2008).

Ilahi et al. (2000) conducted household surveys in rural Pakistan where they studied the relations between access to water and women's time use patterns. They found how it affects time use both at household and individual level. Furthermore, when the households have limited access to water, because of poor infrastructure, women spend less time on market-oriented activities. Time was reallocated so the husband reduced his amount of time spent on market activities and hence it could lead to a decrease in living standards.

Koolwal et al. (2010) found no evidence that increased water access would affect time spent on market activities for rural areas in development countries. Hence, there were no direct relationship, but it resulted in better enrollment for children in school. They further argued how the large share of respondents worked in home-production, such as farm-work, which is not defined as part of the labor market.

3.2.2. Difficulties in measuring empowerment

The diversified research in the field can be seen as an outcome from the absence of any universal framework for measurement of empowerment (Kabeer, 2008). Furthermore, it is argued that women's *e*mpowerment is complex and methodically challenging to measure and analyze (Narayanan, 2005). This implies precautions when choosing statistical framework and evaluating different empowerment indicators of interest.

Women's empowerment should be measured from the context-specific nature of environment, since variables that empower women have different impacts for their ability to take strategic life choices across different regions (Malhotra et al., 2005). In addition to this, the choice of measurement has to be adjusted to the dimension of interest. Out of a statistical perspective and

due to its multidimensional nature, empowerment should be observed as an endogenous latent variable. Hence, the observable variables are only proxies for the underlying unobserved variables, which make the choice of indicators crucial for how to measure (Kabeer, 2008; Narayan; 2005; Bali Swain, 2009).

Furthermore, the indicators of choice can be both indirect proxies, such as level of employment or access to monetary resources, or more direct, such as mobility or participation in decision-making. However, some scholars argue against the use of indirect indicators due to empowerment multi-dimensional nature and since they can have causal affect with the underlying variable (Bali Swain, 2009; Kabeer, 2008). Secondly, its relevance depends on its geographical context and on which dimension of empowerment that is studied (Malhotra et al., 2002). Thus, when constructing the evaluation design it is important to decide if the empowerment variable will be conceptualized as a means or an end or both. Hence, by differencing the evaluation to either focus on actions or results. As Malhotra et al. argues, time usage in itself can be an indicator of women empowerment, however it is less frequently used than e.g. mobility or decision-making.

Pitt et al. (2008) used binary indicators as proxy of women's autonomy, decision-making power, participation in household and societal decisions. Due to empowerment's multi-dimensional nature other recent scholars have used a latent variable to capture empowerment (Kabeer, 2008; Bali Swain, 2009). This method is conducted through creating a factor or PCA-analysis and hence capture what it really is that affect empowerment. Kabeer (2001) further points out that when access to resources is used as a measurement it lacks of conceptual control over whom the real decision maker is.

When choosing if collecting qualitative or quantitative data, Narayan (2005) argues that the best way is a combination of several methods to balance out the method's weaknesses. When approaching the measurement methodological it is recommended to combine qualitative and survey-based approaches to measure and analyze women's empowerment. Using both methods solve for difficulties of quantification and generalization as well as measurement problems.

4. HYPOTHESES

In the light of above presented theories and empirical research I seek to investigate if freeing up a woman's time will affect her level of empowerment. To test this hypothesis a case study was conducted in two rural villages in Odisha, India, where one of the villages had gone through a water and sanitation project intervened by the non-governmental organization Gram Vikas.

Other scholars have argued for ineffective results of improved basic needs on empowerment. It is emphasized that a woman can obtain improved health or increased self-confidence, which indirectly could affect her empowerment, but still no direct relationship has been found (Cheston et al., 2002; Kabeer, 2003). With this in mind, I will not focus on what access to basic needs can do for the women. Instead, this study aims to research on how increased resources of time affect women's level of empowerment. If a woman has constraints on her possibility to choose over her own time it is a probability, with application of Sen's capability approach, that increased access to this resource give her more capabilities to act upon. Drawing on Kabeer's three-dimensional model it can also result in increased agency through the resources.

Previous researches on access to resources and time use pattern have got differentiated results. Ilahi et al. (2000) found that increased time reallocate towards market based activities while Devoto et al. (2012) found that time reallocates on leisure. While these studies focus on allocation of time as achievements, few studies have been done on the direct relationship between allocation of time and women empowerment. Still, there has been some research on the relationship with indirect proxies as measurement between access to water and women

empowerment as well as the relationship between time use and empowerment. Through combining finding from these, I will get the hypotheses for my study.

Moreover, findings from previous empirical researches indicate that only increased resources do not automatically lead to women's empowerment. Hence, it is not the resources in itself that is important, but rather how they are utilized. Therefore, I believe that I will contribute to a missing field in the current discourse through revealing the connection between resources and agency. Through assessing empowerment by its direct agency it will be possible to analyze empowerment as a process and cover for where previous researches only have utilized indirect achievements proxies. This paper is further argued to contribute with valuable knowledge to non-governmental organizations (NGOs) and policy makers in the area in order to reallocate their resources where it can contribute the most.

Contrary to most of earlier empirical research, this study has been extended with a time use survey to interpret the relationship between time pattern and empowerment. By including a broader framework with multiple perspectives I hope to capture the contextual nature of empowerment. Thus, by controlling for both time use and the NGO's intervention I aspect to answer the hypothesis. If the assumption that increased access to water and sanitation creates more free time I will, in particular, investigate if the following hypotheses can be rejected:

H I: Women's time use pattern affect women's level of empowerment.

H II: The reallocation of freed-up time and women's choices depends on their social background.

With the first hypothesis as main hypothesis, the second hypothesis can describe if there are any causal factors that can explain how women reallocate their time other than time spent on water and sanitation. These hypotheses will be tested empirically in following paragraphs.

5. INDIA

To answer the hypotheses, India and the state Odisha has been selected as research environment. There are various reasons for choosing India as research environment, but the main factor is its widespread inequalities. When selecting state, Odisha is one of the most socially underdeveloped states in the country, indicating large inequalities and scarce resources. Odisha was also selected because of the opportunity to work with the successful non-governmental organization Gram Vikas, currently working in the state. Furthermore, to get my case study in a larger context I was dependent on reliable secondary data, where data from India has been selected on state and district level that can help both when choosing scope and deepen the analyze.

5.1. Overview

India has since its independence in 1947 become the second fastest growing economy in the world. GDP has increased from USD 834.2 billion in year 2005 to USD 2066.90 billion in 2014 (World Bank, 2012). This has led to a growing middleclass, but the poor people that live mainly in slum areas and rural villages are still at a stagnating level.

Odisha in the north-eastern part of India is the second poorest state with a rate of 28% living Below the Poverty Line, which is computed out of a number of criteria for rural India. The state has a high level of ST, scheduled tribes, and SC, scheduled caste with a ratio of 22.85% respectively 17.13% of the total state population 41.95 million (Gram Vikas, 2015). Even though the caste system was forbidden in 1949 these people still have disadvantages in the society, which

leads to consequences for the population's ability to reach increased living standards. Odisha has a geographical vulnerable position for climate change and has encountered several environmental disasters—the most severe was a cyclone in 1999 that killed 10,000 people. Only 22% of total households in Odisha had in 2011 access to basic sanitation facilities, where 1.4% of the rest use public latrines and the remaining 76.6% use open deification.

5.2. Gram Vikas

Joe Madiath founded the NGO Gram Vikas in 1979 with a main objective to establish clear water and sanitation for rural communities in Odisha. Madiath himself grew up in a low caste and the organization focus on 100 percent inclusion of all social classes. That is, before a project starts in a village the whole village needs to vote in favor. By this approach access to water and sanitation not only increase the living standards but also decrease the inequalities in the villages. Further, this approach is in line with Gram Vikas vision: An equitable and sustainable society where people live in peace and dignity.

Gram Vikas is ranked 2nd in International ranking of NGOs currently working in India and the organization has since its start supplied 1250 rural villages with water, sanitation, and health. In addition to providing water and sanitation to the villages, Gram Vikas initiate Self-Help-Groups, have a supervisor that stays in the village in order to help the villagers to start using the toilets and also contribute with health education. They also contribute towards letting women be part of the village committee and hence contributing towards building up solid institutions in the villages. The approach of including all villagers has led to several publications evaluating the NGOs work, among them Keirns (2008) who evaluates if Gram Vikas' methods can be scaled-up to obtain sustainable coverage of water and sanitation worldwide.

5.3. Gender inequalities in India

In recent years, women's situation in India has got international media attention from reports of the severe violence against women. This attention has emerged in particular because of the high incidence of rape. The brutal rape of a student on a bus in Delhi on December 16, 2012 lead to increased attention from around the world. Within the country it led to demonstrations and protests against the country's treatment of women. In regard to the population size of India there is not a larger share of rapes reported than in most western countries, but the issue arises

because of the tendencies of institutions such as police or court to blame the victims. The rising number of reported rapes indicates that earlier years have had a large share of un-reported cases and the hidden statistics can still be large (Sen, 2013).

Other noticeable gender inequality can be found in the low ratio of men to women in the population—also called the 'missing women' (Sen, 2013). 48.1% of the Indian population consists of women whereas 51.9% is men (World Bank, 2015). Furthermore, women receive only 10% of the income and own 10 % of the country's wealth. Through analyzing data from the National Family Health Survey of India (NFHS-3, 2005–2006) women's status in India is considerably low with 35% undernourished, 43% illiterate and only 33% participating in the labor force (Chaudhuri, 2013; Dewangan et al., 2011).

As earlier mentioned, gender inequality does not automatically decline when an economy is in a growth phase, consequently raising the need for women's own agency in order to reach gender justice. Growth can even lead to fall back for women's role in society—a theory with evidence from India (Sen, 2013). Even though India has experienced rapid growth, women's participation in the official economy hasn't increased during the last decades. This is in contrary to other countries in Asia, where growing economies have resulted in rapid increase of women's participation of the workforce. Further, it is an evidence of how little value and recognition that is given to women's work in the society, particularly the negative social attitudes towards women's work outside the household (Chandrasekhar et al., 2011). Consequently, an increase in income and education is often connected with a decrease in women's participation. This occurrence can be further explained by the hypothesis that with more income and a wealthier family, women have the possibility to stay at home, which according to the norms is more acceptable. Sen further argues for how Indian women are an untapped resource for the society. It is not a question of what society can do for them—which still is important—but it lacks any interest in what India's women can do for the society (Sen, 2013).

5.4. Odisha in comparison to other states

In India there is a large difference between states in regard to their development and equalities. Kishor et al. (2004) evaluates these differences in the publication "Women's Empowerment in India and Its states: Evidence from the NFHS." NFHS collected data 124,385 married women in India and 4,540 married women from Odisha between 14–49 years. Odisha received an overall

ranking as number 22 out of 25 states, but had a higher ranking in settings which refers to median age and education, age and work in comparison to husband.

To further adjust the study to the local context of Ganjam District, data from IHDS, Indian Human Development Survey from 2005, measure empowerment on district level. The study was conducted by National Council of Applied Economic Research (NCAER), New Delhi, and consists of data from 41,554 households across India, 2,064 households in Odisha and 113 households in Ganjam district. Since measurement of empowerment, according to earlier research, varies depending on the local context it is of importance to take this study's result in account. Noticeably, Ganjam district was found to have higher acceptance of wife beating than other districts in Odisha and other states. In general women in Ganjam district needs less permission to visit several places compared to rest of Odisha and India.

5.4.1. Women's acceptance of wife's beating

Women who justify husband's beating are less empowered than women who think otherwise (Kishor et al., 2004). In Odisha 61% agrees with at least one of the statements of husband beating, compared to 54% across all of India.

Acceptance of wife beating does not vary much with the respondents' age, number of children and household structure but declines sharply with education and wealth. The acceptance of beating tends to be higher in rural areas. It is said to be lower among never married women or among those who were not employed during the last 12 months (Kishor et al., 2004).

5.4.2. Women's freedom of movement

Mobility is defined as the ability to perform activities alone without dependence of others. It is not directly reported by NFHS-3, but instead asked as if the respondent needed permission to go to a number of places. Women's autonomy in Odisha was noticeably lower compared to the rest of India. In India, 52.4% of the respondents could visit the market without permission in comparison to 27.6% of women in Odisha. In addition to this result, only 22.3% can visit relatives' or friends' houses without permission. In total, 18.7% of women in Odisha could visit all three of them, compared to 33.4% in overall India.

It is further indicated that freedom of movement correlates positively with age, employment, nuclear family, urban areas and wealth (NFHS-3, 2005–2006). The need of permission decreases with higher education, membership of SHG and higher social status such as belonging to an OBC caste and Hindu religion (IHDS, 2005).

5.4.3. Decision-making

At the household level, participation in decision-making by women alone or together with her husband are considered to be more empowering than if the decisions only are made by her husband or others in the household (Acharya et al., 2010; Kishor et al., 2004). Odisha, with a participation rate of 42%, tended to have higher level of decision-making than rest of India with 37% participation. On the other hand, women that participated in none of the fours alternatives were 21% in India and 17% in Orissa.

It was found that caste and education had no influence on decision-making while it increases with age, employment, urban living and number of children. An increase in women's education significantly increased her decision-making over her own health care (NFHS-3, 2006). Participation in SHG and female-headed households also increase participation level in decision-making. In contrary to NFHS-3, IHDS found that women belonging to general castes and OBC and larger number of children were less likely to take decisions alone.

6. METHOD

A case study of quasi-experimental design was conducted during two months in the spring of 2016. The data was gathered in collaboration with the local NGO Gram Vikas, where one of the villages had gone through Gram Vikas' water—and sanitation project in 2002. Quantitative data was gathered through a questionnaire in order to test the hypothesis in a regression. In addition to the case study, secondary data was gathered from the national surveys NFHS-3 (2005–2006) and IHDS with purpose to include the case study in a broader context and design the survey to the local context.

Case studies have been a debated topic concerning whether the method gives unbiased results or a too narrow perspective (Flyvbjerg, 2006). However, due to the nature of empowerment, an in depth analysis is motivated to be the most appropriate method to understand the contextual dependent variable empowerment. I therefor argue that, even though this case study includes a small number of respondents, useful insights from living in the villages and interacting with the respondent in their everyday life will generate new valuable perspectives from the study.

6.1. Data collection process

Data was collected, over a time period of 6 weeks between January and March in 2016, from a questionnaire reaching 108 respondents in two rural villages in Ganjam district, Odisha, India. For the case study a quasi-experimental design was utilized, motivated because of its suitability when evaluating how well policies or programs achieve its objectives. Quasi-experimental design identifies a control group that is as similar as possible to the treatment group with regard to pre-intervention characteristics. Although it would have been preferred to utilize randomized experiment, the circumstances made the chosen method most appropriate in order to investigate if the intervention from Gram Vikas had any causal effect on empowerment level of the treatment group.

The treatment village was chosen randomly from a list of villages given by Gram Vikas covering all their present villages in Ganjam. Ganjam district was in turn chosen because of safety reason and reduced time cost for the NGO, since the translator and me had possibilities to live in the villages during the fieldwork. Other villages than the selected were beforehand selected but did not achieve the required criteria of suitable nearby villages to use as control group.

The two villages chosen are extraordinary cases since they are located in such a close distance as one km, enabling the villagers to interact with each other on a daily basis. Since women empowerment is described as both a collective and individual process the fact that the villages can be seen as the same community increases the probability of unbiased estimates. However, there is a chance of spillover effects but the positive effects were considered to outweighs the spillover effects.

As sample size, 70 households, out of 140, from the treatment group and 38 households, out of 50, were selected from the control group. Stratified sampling was used when choosing the sample size and share of household from each group. The households were selected out of their location in the village, choosing each and every household. To increase the significant level of the control group the number of interviews was increased to cover more than 50 percent of the households.

As a visitor in the two villages you directly could observe a substantial difference between them where the treatment village is considerably more developed. However, I was several times reassured that they both were identical before one of them went through the project 15 years ago. Thus, the assumptions for quasi-experimental design with pre-intervention characteristics were assumed to hold.

6.2. Questionnaire design

After visit in the villages and conducting qualitative interviews with women from the villages and employees from the NGO a survey was created. Pilot surveys were conducted with 5 respondents from each village and the questions were then adjusted. The translator translated the survey to the local language Oriya and in order to reassure from any misinterpretations in the translation process the survey was in a second step translated back to English and some questions was changed. Each interview took 30–40 minutes and when interviewing women, I had a female translator with me in order to let the women answer as freely as possible. Further, it was also important that no men were present during the interviews.

The household survey that has been collected is divided into three different parts. Part one is demographic of the individual as well as a complete record of the household. Furthermore, part two includes a time use survey of the individuals last 24 hours. Due to the many indicators

influencing the empowerment process—a detailed scheme over all household members was collected, which included literacy rate, education and employment within the household.

6.2.1. Time use survey

Part of the survey was conducted through time use surveys, which is a method to measure the invisible and 'un-paid' work as well as pattern of social life. Through his method information that would not normally be shown in conventional data can be attained (Hirway, 2000).

When choosing method for how to conduct the time use surveys reference is made to the extensive research conducted by Indira Hirway. Hence, the one-day recall method was used for collecting data on time spent on different activities, from each member of the selected households. This method is preferred compared to the Observation Method, where the investigator through observations collects information but hence leads to consciousness of the women and biased estimation.

The research by Indira Hirway was also conducted in rural parts of India and they found it hard to use 10 minute slots because of the absence of clocks and instead used one-hour slots. They also found that the investigator has to be careful when asking questions to get the right chronology of the activities being made. Thus I will use the same method since it is already proven effective (Hirway, 2000).

Time use survey technique is an important tool for measuring paid and unpaid work of men and women in a society, that can't be shown by the conventional data sources such as labor and employment statistics, national income statistics, population statistics, etc. Time use surveys have been used since the beginning of the 20th century to understand lifestyle of people, including their social life on the pattern of time they use for different activities. Unpaid work is also a key to the dynamics of gender inequalities and an important input for designing of gender equal policies.

There is a bias in women's work since they do not report domestic work and care activities as work and do not report it (Harvey et al., 2000). Hence, time use surveys are a useful tool to analyze women's pattern of time without this bias.

6.3. Variables of choice

6.3.1. Dependent variable: Measure women empowerment

To capture the respondent's level of empowerment 29 questions were designed and divided into four dimensions; decision making process, power of work independency, awareness of different social issues, and their attitudes towards wife beating. The questions were adjusted to the contextual environment of Ganjam district with help from Sangram Panigrahi who conducted a larger PhD study in the district on SHGs and empowerment during. The indicators of women empowerment have been chosen with regard to the Demographic and Health Surveys (DHS), published in 2008 (Kishor et al., 2008). To use empowerment in the context of Odisha, National Family Health Survey (NFHS-3) published in 2006, has been used as well as Indian Human Development Survey, published in 2005. Both these surveys have collected information related to decision-making in the households, mobility, and gender-role attitudes.

Previous researches have pointed out the measurement difficulties in direct proxy variables of empowerment due to its latent nature. However, with the large number of variables to compute the empowerment index it is considered to be an unbiased measurement. This is further argued from how the variables computing the index have been adjusted to the local context through locally collected secondary. Additionally, observations from the field and hands-on-experience through living in the villages will give valuable information on how to treat the data.

One of the dimensions regarding decision-making had categorical response alternatives. Hence, it was not possible to compute if decisions made by 'Others in the household' or by 'Husband' indicated higher or lower level of empowerment. Additionally, women without husband had no option to choose one of the response alternatives. Previous research that has indicated that women conducting decision by themselves or with husbands are considered to be more empowered than if others in the household made the decision (Acharya et al., 2010; Kishore et al., 2009). Pitt and Khandker (1998) used binary indicators in their study to capture decision-making. In regard to these previous studies, a dummy was computed with the score 1 if the respondent made decisions by herself or with husband and 0 otherwise. This method is motivated as preferred in order to avoid any incorrect assumptions even though it reduces the variance. One option to compute the dimension could have been to create a break point for a specific number where a woman was considered empowered or not. However, without any

frameworks or definitions for the margin of empowerment an index was computed of the mean value of all included variables.

The other dimension consisted of ordinal variables and kept in a scale from 1 to 4 and normalized to a scale from 0 to 1 with 1 as most empowered. Then computed into an average for all variables in the dimensions and then normalized to the scale ranging from 0 to 1 for easier interpretation. However, it would have been optimal to create a sum as index to get larger variance but due to missing values it was considered to lose too much data if either questions or observations were deleted.

6.3.2. Explanatory variable: Time use

In order to include the time use survey in the regression, the hours were divided into four categories for easier interpretation: water, market work, leisure and domestic work. Moreover, there have been studies on how time use surveys should be conducted. In regard to these theories time hour slots were utilized, which in many observations had several activities within one hour. Thus, each hour was treated as dominant by the respondent's main activity, where the secondary activity denoted for further analysis.

6.3.3. Control variables

The set of control variables that will be included in the regression has been specified with reference to previous studies and surveys. The control variables of choice are below described and motivated for in no particular order:

- *Age:* NFHS-3 has indicated how an increase in age can have positive affect on both decision-making and mobility. However, it has not shown any significance on attitudes towards husband beating. Age is also complemented with *Age_Squared* in order to control for diminishing or increasing returns.
- *SHG*: A dummy for if the respondent has participated in self-help-groups. Participation in SHG has indicated to have positive effect on mobility and decision-making.
- *Education:* Education for respondent in number of years. Educational level has been indicated to correlate negatively with acceptance towards husband beating and positively with mobility.

- *Nr_hh:* Number in the household, which has been indicated to correlate negatively with freedom of movement.
- *Children_hh:* Number of children in the household. The variable has got contrary previous results from IHDS and NFHS-3, but both surveys indicated that it had an effect on women's decision-making.
- *Head_Education*: The head of household's education in years. Previous scholars have indicated on how social norms and surroundings in the household such as education of the head of household could affect women.
- *Married:* Dummy for married women. Marriage has been indicated to increase acceptance level of wife beating.
- *Head:* A dummy for if the respondent is head of the household, which has been indicated to improve participation in decision-making.

6.4. Validity of data

6.4.1. Issues from field work

One possible risk of biasedness could occur if the respondents were unwilling to answer according to their true opinion. This could have occurred if people in the surrounding affected their answer or if they, due to the sensitive are of empowerment, wanted to answer what they thought were correct within the norm. This was considered to occur when questions were asked regarding the respondents' experience of domestic physical violence during the last 12 months. In some cases, this question made the respondents uncomfortable and hence the question was removed from the statistical analysis but will be analyzed as a descriptive factor.

The time use surveys were the most time consuming and hence the respondents could get tired or bored. It was also a tendency of the translator to fill in for the women of what they might be able to have done if the respondent had difficulties to remember. To prevent this from occur, being present during all interviews made it possible to ask control questions while paying attention to information that was filled in.

Furthermore, miscommunication occurred with my translator and supervisor regarding the dimension of "Attitudes towards husband beating." The first 28 respondents had to be asked these 4 questions again due to interpretation of the questions as verbal violence instead of

physical. However, since all the respondents were asked again it is assumed to have no implications on the data.

6.4.2. Issues with data

Firstly, the largest drawback with the collected data is considered to be its small sample size. In the field, it was a tradeoff between conducting a larger sample or more depth and detailed survey. However, since empowerment is such a hard variable to measure the positive factors of more information overweight the larger sample size. Secondly, the choice of only two villages will give a smaller variance than including several villages. Here, a decision was made that including more villages would increase the risk of unbiased estimates, since empowerment can occur at collective level but also it would take away the social norms influencing empowerment, which occur on a contextual environment within institutions. This decision was further emphasized with regard to the time costs of the NGO as well as of safety reasons for the translator and me when living in the villages.

Cooperating with an organization was necessary in order to conduct the interviews but it brought some drawbacks with it. Even though the selection of villages was done as random as possible, it is highly believable that the NGO influenced the choice of villages to their advantage. Additionally, the project was implemented 15 years ago indicating that other causal effects than time use could have affected women's empowerment. This was a large concern during the fieldwork but the local supervisor reassured that it was no problem and it was difficult to convince the organization. One possibility was that time saved for the women could have affected other variables such as education and after a couple of years the increased education had an effect on empowerment. Through using control variables this problem got decreased but it could have been solved if another village with a shorter time since intervention was selected as third village, but time cost made this impossible. The NGO contributes with much more than just the saved time for the women, especially from the supervisor and when women get selected into the village committee.

Moreover, the preferable method for measurement would have been factor analysis to capture the latent variable. However, factor analysis is preferred when there is a large sample size. Hence, with the small sample size an index was the best solution. A decision was also made to not give weights to different questions since it might end up in measurement error when the weights are uncertain.

Due to time costs, it was not possible to compute how much each member of the household earns since some households were large. Limitations were drawn to include how much the respondent and household provider earned. To further capture the household's social status, questions were asked about light in the house, number of expensive belongings and acres of field they owned. Light indicated if the households lived Above Poverty Line (APL) or Below Poverty Line (BPL) as well as could count for the households without electricity. Noticeable, acres do not necessary indicate that the households are of higher social status since households without any own field might work in their own enterprises which could indicate another status.

6.4.3. Missing values

The decision-making dimension included three answers were some of the respondents had limited response alternatives due to the absence of own wage, savings account or husband where they answered "Can't Say/Don't Know." The small sample size was considered to be too small to remove any observations from the study. Instead solutions could have been to count them as 'missing values' that would change the index when a mean was considered. They could also be considered as not empowering and been given '0' as value. However, it was too risky to assume that a woman not could have decided over her own money if she earned any. Hence, the questions were removed from the survey since there were a large number of variables computing the index (Appendix 11.1). This gave 24 variables included in the study instead of the original 29.

In retrospect, the issue of missing values could have been in large part reduced if only married women would have been selected. The selection of only married women is common among previous scholars.

6.5. Statistical method

In order to investigate the relationship between key explanatory variables of time use and empowerment a number of OLS regression models have been estimated. The selection of control variables is further explained in the following section. In order to reduce the risk of multicollinearity correlation on each and every independent variable's correlation was examined (Appendix 11.2).

6.5.1. Main estimated model

$$Empowerment_{Dimension} = \beta_0 + \beta_1 Time\_Use + \beta_2 Head + \beta_3 SHG + \beta_4 Number\_hh + \beta_5 Age + \beta_6 Age\_Squared + \beta_7 Married + \beta_8 Wage + \beta_9 Head\_Educ + \beta_{10} Education + \beta_{11} Children\_hh + \epsilon$$

Time_use is altered between the four variables *Water_Sanitation*, *Domestic_Work*, *Market_Work* and *Leisure*. It is measured in hours and the variables balance out each other to 24 hours for each respondent. This main estimated model studies how the amount of hours spent on different activities affect the empowerment dimensions.

The dependent variable $Empowerment_{Dimension}$ is altered between *Decision*, *Beating*, *Power* and *Awareness*. *Decision* refers to questions i1.1–i1.11 from the survey and "Participation in decision-making" within the household. *Beating* refers to question i1.26–i1.29 from the survey and "Attitude towards physical violence by husband." Note that for *Beating*, the scale from the survey is reversed in order to follow the other three dimensions' direction. Hence, a higher level of *Beating* indicates a higher level of empowerment. *Power* refers to question i1.12-i1.19 from the survey and "the power to do activities independently" or "mobility." *Awareness* refers to question i1.20–i1.25 and "Awareness of society."

6.5.2. Complementary estimated models

$$Time_{use} = \beta_0 + \beta_1 Water\_Sanitation + \beta_2 Head + \beta_3 SHG + \beta_4 Number\_hh + \beta_5 Age + \beta_6 Age\_Squared + \beta_7 Married + \beta_8 Wage + \beta_9 Head\_Educ + \beta_{10} Education + \beta_{11} Children\_hh + \epsilon$$

Water_Sanitation is the amount of hours spent on water and sanitation activities, which include taking a shower, walking to the pond for a bath or carrying water. The hours spent are regressed on the other three time-usage variables *Market_Work*, *Domestic_Work* and *Leisure* in order to study how time spent on water and sanitation affect women's time use pattern. This model also makes it possible to answer hypothesis 2 and study how the respondent's social background such as *Education* and *Wage* affect time allocation.

7. RESULTS

7.1. Descriptive data

The sample consisted of cross-sectional data gathered from 108 women in a treatment group and one control group. All respondents are of OBC caste, which is one of the general castes, and all practice Hindu religion. After one of the participants was approached a second time and convinced to finish the survey, a participation rate of 100% was obtained. The study also covered a high rate of the population with 56.8% of the total 190 women in the villages.

The respondents' age varies between 18 and 65 with a mean of 36.5 years. 82 of the women are married while 12 are single, 12 are widows and 2 are divorced. The mean wage is INR 46.7 (USD 0.697) per day, however when only counting the 51 women earning their own wage the mean wage is INR 98.9 (USD 1.48) per day. 50 women are illiterate and 58 have no education, whereas 5 women have finished primary school, 38 secondary, 3 higher secondary and 4 have gone to college. 43 households have members that have migrated to find labor abroad where 19 are husbands, 26 are sons and 4 are fathers.

When collecting data for which kind of lightning the household own it was indicated that 31 households live below poverty line (BPL) in which 10 of the households had no electricity. All households in the treatment village had their own toilets and connected water supply to their house, while the control group had two water pumps distributed by the Indian government and, except for 2 households, all respondents in the control group used open deification by the road side or on the fields and used the nearest pond for baths.

7.2. Regressions

As shown in Table 1, *Water_Sanitation* has a negative effect of 0.777 on *Leisure* at a 1% significance level, but does not significantly affect *Market_Work* or *Domestic_Work*. The interpretation for the measured effect is that time spent on *Leisure* decreases with 0.777 hours for each additional hour spent on *Water_Sanitation*.

Instead of being affected by the variable of interest, *Domestic_Work* and *Market_Work* are affected by *Married* and *Head*. Women that are head of the household or are married tend to reallocate their time from water and sanitation activities towards domestic work while the

unmarried women and those not head of the household reallocate the time towards market work. If a woman is married she spends on average 3.4 less hours on market work and 3.4 more hours at domestic work. Being a member of a *SHG* affects leisure negatively at a 1% significance level and *Market_Work* positively at a 10% significance level. Interpretation of the coefficient gives an average of 2.033 fewer hours spent on Leisure if the respondent is a member of a SHG and increase of 1.869 hours on market work.

Table 1: Estimated effects of water and sanitation time usage on other activities:

	(1)	(2)	(3)
VARIABLES	Market_Work	Leisure	Domestic_Work
Water_Sanitation	-0.0664	-0.777***	-0.152
	(0.227)	(0.170)	(0.124)
Head	-2.093*	-0.0403	2.186***
	(1.251)	(0.934)	(0.680)
SHG	1.869*	-2.033***	0.143
	(1.013)	(0.756)	(0.551)
Nr_hh	-0.341	0.239	0.102
	(0.274)	(0.205)	(0.149)
Age	0.525**	-0.350**	-0.175
	(0.215)	(0.160)	(0.117)
Age_Squared	-0.00659**	0.00533***	0.00129
	(0.00263)	(0.00196)	(0.00143)
Married	-3.397***	-0.0816	3.444***
	(1.054)	(0.787)	(0.573)
Wage	-0.00424	0.00534	-0.000853
	(0.00603)	(0.00450)	(0.00328)
Head_Educ	-0.00627	0.00234	0.00307
	(0.0746)	(0.0556)	(0.0405)
Children_hh	0.307	-0.320	0.00285
	(0.410)	(0.306)	(0.223)
Education	0.109	-0.343	0.233
	(0.433)	(0.323)	(0.235)
Constant	-2.318	20.67***	5.685**
	(4.744)	(3.540)	(2.579)
Observations	108	108	108
R-squared	0.211	0.372	0.441

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Age has a negative effect on Leisure and positive effect on Market_Work. At a 5% significance level, a yearly increase of age increase time spent on market work with 0.525 hours and decrease time spent on leisure with 0.350 hours. *Age_Squared* indicates increasing returns for leisure as the respondent reach a higher age and diminishing returns for market work. *Wage, Head_Education, Education* and *Children_hh* have no significant effect on reallocation of time.

Table 2: Estimated effects of time use on dimensions "Decision-making" and "Attitudes towards husband beating":

VARIABLES	(1) Decision	(2) Decision	(3) Decision	(4) Decision	(1) Beating	(2) Beating	(3) Beating	(4) Beating
Market_work	.007				-.012			
	(.010)				(.010)			
Head	.316***	.317***	.262**	.279**	-.269**	-.249**	-.325***	-.242**
	(.120)	(.119)	(.126)	(.123)	(.117)	(.117)	(.121)	(.120)
SHG	.034	.039	.0430	.0231	-.012	-.033	-.047	-.034
	(.096)	(.094)	(.094)	(.101)	(.093)	(.092)	(.090)	(.098)
Number_hh	-.023	-.017	-.028	-.033	-.015	-.014	-.017	-.010
	(.025)	(.026)	(.025)	(.027)	(.024)	(.025)	(.024)	(.027)
Age	.049**	.049**	.055**	.051**	.002	-.003	.000	-.004
	(.022)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)	(.021)
Age_Squared	-.000**	-.000**	-.000**	-.000**	.000	.000	.000	.000
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Married	.143	.114	.061	.124	-.277**	-.234**	-.350***	-.236**
	(.109)	(.103)	(.121)	(.104)	(.106)	(.101)	(.117)	(.102)
Wage	.000	.000	.000	.000	-.000	-.000	-.000	-.000
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Head_Educ	.0043	.005	.004	.004	-.003	-.003	-.003	-.003
	(.007)	(.007)	(.007)	(.008)	(.007)	(.007)	(.007)	(.007)
Education	-.007	-.006	-.008	-.008	.013	.013	.010	.014
	(.009)	(.009)	(.009)	(.009)	(.008)	(.008)	(.009)	(.009)
Children_hh	.008	-.001	.011	.020	.035	.036	.035	.031
	(.038)	(.039)	(.038)	(.041)	(.037)	(.038)	(.036)	(.040)
Leisure		-.013				.004		
		(.012)				(.012)		
Domestic work			.017				.034*	
			(.019)				(.018)	
Water_Sanitation				-.016				.001
				(.023)				(.022)
Constant	-.490	-.302	-.575	-.414	.999**	.959**	.876**	1.014**
	(.418)	(.460)	(.424)	(.437)	(.405)	(.450)	(.408)	(.427)
Observations	108	108	108	108	108	108	108	108
R-squared	.267	.271	0.269	0.266	.202	.191	0.219	.190

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3: Estimated effects of time use on dimensions "Power to do activities independently" and "Awareness of society":

VARIABLES	(1) Power	(2) Power	(3) Power	(4) Power	(1) Awaren.	(2) Awaren.	(3) Awaren.	(4) Awaren.
Market work	.011				.003			
	(.007)				(.006)			
Head	.118	.118	.093	.104	.031	.037	.031	.059
	(.085)	(.083)	(.091)	(.089)	(.068)	(.067)	(.072)	(.069)
SHG	.103	.111*	.125*	.135*	.030	.029	.038	.073
	(.068)	(.066)	(.068)	(.072)	(.055)	(.053)	(.053)	(.057)
Number_hh	-.008	.000	-.012	-.009	-.033**	-.028*	-.034**	-.023
	(.018)	(.018)	(.018)	(.020)	(.014)	(.014)	(.014)	(.015)
Age	.017	.017	.022	.023	.007	.006	0.009	.011
	(.015)	(.015)	(.015)	(.015)	(.012)	(.012)	(.012)	(.012)
Age_Squared	-.000	-.000	-.000*	-.000*	-.000	-.000	-.000	-.000
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Married	-.148*	-.193***	-.190**	-.189**	-.088	-.102*	-.089	-.107*
	(.078)	(.073)	(.087)	(.075)	(.062)	(.059)	(.069)	(.0583)
Wage	.000	.000	.000	.000	-.000	-.000	-.000*	-.001*
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Head_Educ	.008	.008	.008	.008	.006	.007	.006	.007*
	(.005)	(.005)	(.005)	(.005)	(.004)	(.004)	(.004)	(.004)
Education	-.002	-.002	-.002	-.001	.000	.000	.000	.003
	(.006)	(.006)	(.007)	(.007)	(.005)	(.005)	(.005)	(.005)
Children_hh	-.011	-.025	-.008	-.013	.026	.018	.026	.011
	(.027)	(.027)	(.027)	(.029)	(.021)	(.022)	(.021)	(.023)
Leisure		-.019**				-.010		
		(.009)				(.007)		
Domestic work			.001				-.003	
			(.014)				(.011)	
Water_Sanitation				.006				.023*
				(.016)				(.013)
Constant	.285	.568*	.260	.229	.839***	.996***	.846***	.703***
	(.296)	(.323)	(.305)	(.314)	(.238)	(.260)	(.242)	(.245)
Observations	108	108	108	108	108	108	108	108
R-squared	.243	.262	.224	.225	.220	.235	.218	.243

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

7.3. Estimated effect of empowerment on time usage

Firstly, the four regressions in Table 2 and Table 3 show how time spent on *Water_Sanitation* only has a direct effect on the dimension *Awareness* at 10% significance level. Interpretation of the coefficient gives that one hour spent on water and sanitation activities increases awareness of society with 2.3%. Secondly, *Leisure* has with 5% significance a negative effect on *Power*. An interpretation of the coefficient shows how for every hour a woman reallocates her time on

leisure, her freedom of movement will decrease with 1.9%. Thirdly, *Domestic_Work* indicate a positive effect on *Beating* at a 10% significance level. Interpretation of the coefficient gives that an increase in one hour spent on domestic work gives 3.4% more negative attitude towards husband beating.

7.4. Estimated effect on empowerment by control variables

Head has strong significant effect on two dimensions where it is positive for *Decision* and negative for *Beating*. Interpretation gives that women that are head of the household tend to have between 24.2 and 32.5% more positive attitude towards physical violence by a husband.

Married affects *Beating* and *Power* at either 5 or 10% significance. Married women have less freedom of mobility and are more agreeing with physical violence by husband. When interpreting the coefficients, marriage decreases mobility on average between 14.8 and 19.3% and increase acceptance of beating with 23.4 to 35%. *Married* also indicates slightly significant negative effect on *Awareness*. *Nr_household* partly affects awareness negatively at 1 and 5% significance level, where an increase of one person in a household decreases the women's awareness of society with 2.8-3.4%.

Age only shows strong statistical significance for *Decision* where it also has diminishing returns. As a woman gets older she participates more in decision-making, but as she reaches an older age her participation tends to decrease. When controlling for *Water_Sanitation* and *Domestic_Work* diminishing returns for Age also affect *Power* and hence the oldest women tend to experience decreased mobility.

Wage only has a slightly negative effect on *Awareness*. *Head_Educ* has at a 10% significance level a positive effect on *Awareness* when controlling for *Water_Sanitation*. Interpretation of the coefficient gives that one increased year of head of household's education increase a woman's awareness of social issues with 0.7%, when controlling for *Water_Sanitation*. *Children_hh* and *Education* are the only control variable without significance on any dimensions.

8. DISCUSSION

My results indicate significant effects of each time-use activity on empowerment except for *Market_Work*. Particularly interesting is the finding that an increase of the variable of interest *Water_Sanitation* affects awareness of society positively. This indicates that women that have to carry water larger share of hours than other women would have a higher level of empowerment, which is an opposite result of what was expected. Fortunately for this study, it contains a large number of different variables as well as my own experiences from the field and when analyzing the result broader this phenomenon can be explained.

The relationship can be analyzed with help from the frameworks of Kabeer and Sen. Scholars have argued for how important it is to distinguish which part of empowerment that is studied (Malhotra et al., 2005). If the main variables of interest instead of direct proxies would have been education or literacy it could be interpreted as achievements. However, through analyzing the effect on direct proxies for empowerment it is possible to interpret the empowerment dimensions as Agency, which is a woman's ability to exercise choice or as Sen define it as increased 'capabilities'. In this case study, with application of Sen's theories, the NGO Gram Vikas can be seen as adding 'functionings' to the village they have intervened. The constant supervisor who lives in the village together with SHG: s, women's inclusion in committees and health education all contribute towards helping woman to exercise their capabilities in the best possible way.

Previous scholars have found different results when analyzing if increased time resources are reallocated on market work or leisure. In this study, significant result from Table 1 indicates how women with increased access to water and sanitation tend to reallocate their time on leisure. This is a particularly interesting finding since women spending more time on leisure have significantly less power to do activities independently. Engaging in domestic work also contributes to women being more negative towards husband beating. All these results indicate that a common factor could be that women should engage in any sort of activity in order to increase their empowerment. Hence, if the NGO by acting as functioning for women can engage them to take part in activities instead of leisure, Gram Vikas can contribute to women benefiting even more from their Water and Sanitation projects.

Although the result is significant there is a possibility that factors not included in the regression contribute to how women in the treatment village spend more time on leisure instead of market

work. When comparing the two villages on descriptive data, the treatment village has a higher mean of economic status in all variables indicating on social status. There is also a larger share of women with husbands that have migrated for labor. Qualitative questions during the interviews indicated how some women had become housewives when their husbands started to work abroad and could earn more money for the household. This verifies the theory of how women if it is possible, according to the Indian culture, will stay at home and take care of women's socially acceptable activities. It was also stated that these women had enjoyed their lives more when they were working but an increase in living standard closed that possibility for them.

As earlier mentioned, a choice is empowering if it can break norms and social structures and it is therefore important to not generalize women's time usage. A woman deciding over how she will spend her time does not necessarily lead to empowerment if she chooses to do nothing and stay at home. Marriage has negative effect on several of the dimensions, which is an impact that also was observed during the fieldwork. A large share of women in the treatment village that engaged themselves in the village committee were unmarried and spent most of their time on market work. Hence, these women were able to break one of Indian society's strongest norms of marriage. For these observations my own perspective can be discussed, where coming from a western culture can both contribute with new thoughts but also be prejudiced and misunderstanding.

Other interesting findings from the study are the importance of the household that tends to have more weight than social background such as education and wage. From Table 1 it is possible to reject Hypothesis 2 since neither education level nor wage show any significant results. Instead, the amount of time spent on domestic work mostly gets affected by if the women are married or head of the household. The result from Table 1 of how unmarried women spend less time on market work is another indicator of a social norm that is hard to break. Another interesting finding is that even though SHG from previous studies have showed high significance, it only affects one of the dimensions slightly.

Important to note is that these findings cannot generalize the picture for all India or even Odisha, since it is a small and limited case study. However, it can help organizations and policy makers in the area to further understand how women have to be actively participates in processes in order to increase their empowerment.

9. CONCLUSION

In conclusion of my study some evidence was found that resources of water and sanitation directly affect women's empowerment. It was also found how agency that is created from freeing up time benefit women indirect through giving them possibilities to take control over their lives, which previously was denied for them. The main finding is that what women do with these new possibilities is the factor determining if it will increase their empowerment. This is in line with the framework by Kabeer, where women themselves need to be part of their empowerment process.

It also needs to be argued for how women do not automatically get empowered through increased livelihood including increased income to the household or increased resources. This is in particular the most relevant knowledge from this case study—how it is necessary to give women the capability to act upon their own choices. Due to social cultures and traditions in development countries it is of highest importance with sustainable systems and aid from organizations or policies on a household and village level. Without the functionings for how to act upon the new possibilities from increased time resources it will not directly empower women.

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11.Appendix

11.1. Empowerment variables

Variable	Obs	Mean	Std. Dev.	Min	Max
i11	108	2.601852	1.07599	1	4
i12	106	2.556604	1.096142	1	4
i13	108	2.5	1.036709	1	4
i14	108	2.537037	1.071517	1	4
i15	108	2.555556	1.053107	1	4
i16	79	3	.9198662	1	4
i17	89	3.460674	.879775	1	4
i18	98	2.744898	1.133476	1	4
i19	98	2.561224	1.046017	1	4
i110	99	2.585859	1.010255	1	4
i111	88	2.522727	.8573854	1	4
i112	92	1.815217	1.317084	1	4
i113	108	2.694444	1.403989	1	4
i114	108	2.787037	1.318814	1	4
i115	108	2.472222	1.179722	1	4
i116	107	1.943925	1.172256	1	4
i117	108	2.37037	1.343677	1	4
i118	108	1.509259	1.097962	1	4
i119	108	2.953704	1.278026	1	4
i120	108	2.851852	1.125863	1	4
i121	108	3.166667	.8145866	1	4
i122	106	3.59434	.686999	1	4
i123	108	3.212963	.5967345	1	4
i124	70	3.042857	.4642499	1	4
i125	104	2.875	.8087807	1	4
i126	108	3.027778	1.335765	1	4
i127	108	2.703704	1.40931	1	4
i128	108	2.907407	1.35023	1	4
i129	108	3.398148	1.07599	1	4

11.2. Deleted variables women empowerment

Variable	Obs	Mean	Std. Dev.	Min	Max
i11	108	2.601852	1.07599	1	4
i12	106	2.556604	1.096142	1	4
i13	108	2.5	1.036709	1	4
i14	108	2.537037	1.071517	1	4
i15	108	2.555556	1.053107	1	4
i16	79	3	.9198662	1	4
i17	89	3.460674	.879775	1	4
i18	98	2.744898	1.133476	1	4
i19	98	2.561224	1.046017	1	4
i110	99	2.585859	1.010255	1	4
i111	88	2.522727	.8573854	1	4
i112	92	1.815217	1.317084	1	4
i113	108	2.694444	1.403989	1	4
i114	108	2.787037	1.318814	1	4
i115	108	2.472222	1.179722	1	4
i116	107	1.943925	1.172256	1	4
i117	108	2.37037	1.343677	1	4
i118	108	1.509259	1.097962	1	4
i119	108	2.953704	1.278026	1	4
i120	108	2.851852	1.125863	1	4
i121	108	3.166667	.8145866	1	4
i122	106	3.59434	.686999	1	4
i123	108	3.212963	.5967345	1	4
i124	70	3.042857	.4642499	1	4
i125	104	2.875	.8087807	1	4
i126	108	3.027778	1.335765	1	4
i127	108	2.703704	1.40931	1	4
i128	108	2.907407	1.35023	1	4
i129	108	3.398148	1.07599	1	4

Questions removed from the regressions:

- F1.6: Who decides how the money you earn will be used?
- F1.7: Do you have a bank or saving account for yourself?
- F1.11: Who decides how husbands' earnings should spend?
- F2.1: Have you the power to cast a vote independently?
- F3.5: Boys and girls in the age of 17-25 years should learn about contraceptive and HIV/AIDS in school.

11.3. Correlation between variables

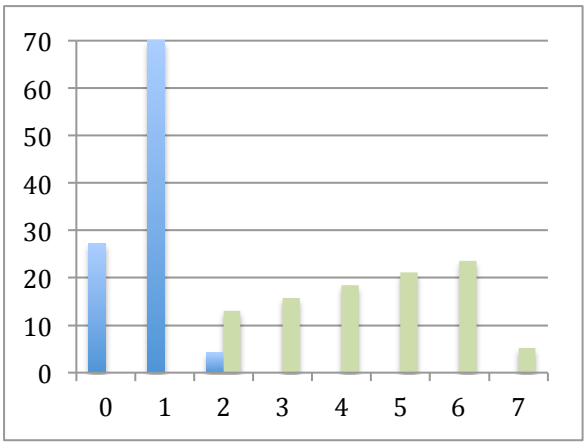
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
A Water sanitation	1.000														
B Water	-0.884	1.000													
C Market	0.154	-0.113	1.000												
D Leisure	0.294	-0.359	-0.663	1.000											
E Domestic	0.097	-0.180	-0.628	0.082	1.000										
F Head	0.082	-0.087	0.046	0.148	-0.166	1.000									
G Shg	0.364	-0.369	0.256	-0.045	-0.046	0.017	1.000								
H Nrhh	0.245	-0.227	-0.103	0.071	0.239	-0.337	0.129	1.000							
I Age	-0.042	0.086	0.106	0.172	-0.432	0.379	0.280	-0.180	1.000						
J Age_sq	-0.046	0.087	0.071	0.219	-0.437	0.394	0.239	-0.189	0.987	1.000					
K d_mari	-0.135	0.109	-0.226	-0.163	0.448	-0.556	0.016	0.304	-0.162	-0.216	1.000				
L Wage	-0.043	-0.020	-0.041	0.097	-0.034	0.157	0.029	-0.070	0.059	0.058	-0.070	1.000			
M hheduc_y	0.114	-0.201	-0.024	0.045	0.135	-0.168	0.086	0.177	-0.146	-0.137	0.121	0.094	1.000		
N ch_hh	-0.115	0.097	-0.027	-0.160	0.152	-0.088	0.053	0.563	-0.193	-0.212	0.167	0.008	0.164	1.000	
O educ_year	0.248	-0.324	-0.053	-0.025	0.364	-0.200	-0.066	0.103	-0.593	-0.551	-0.021	-0.004	0.328	-0.001	1.000

	A	B	C	D
A Market	1.000			
B Water	-0.100	1.000		
C Domestic	-0.618	-0.160	1.000	
D Leisure	-0.660	-0.390	0.063	1.000

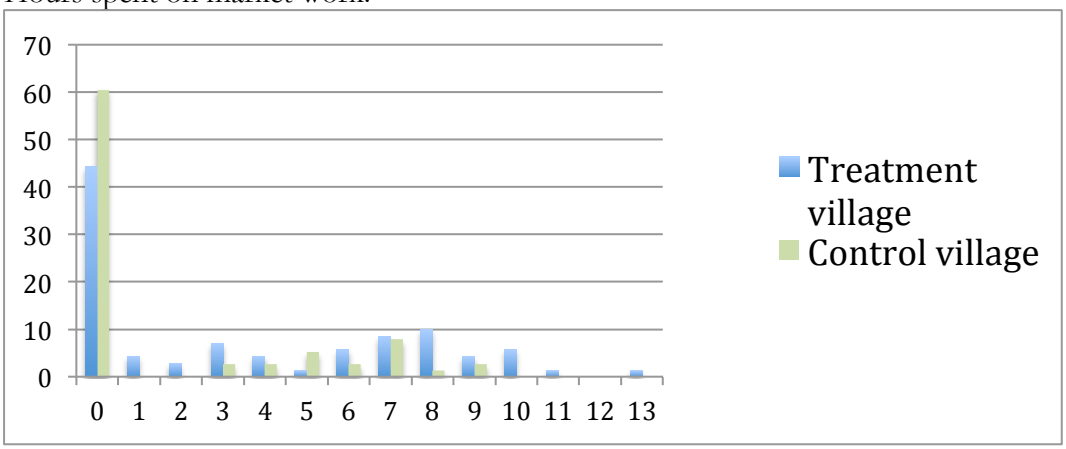
	A	B	C	D
A Power	1.000			
B Beating	-0.025	1.000		
C Awarness	0.305	0.108	1.000	
D Decision making	0.176	-0.201	-0.040	1.000

Distribution of time allocation between control group (green) and treatment group (blue):

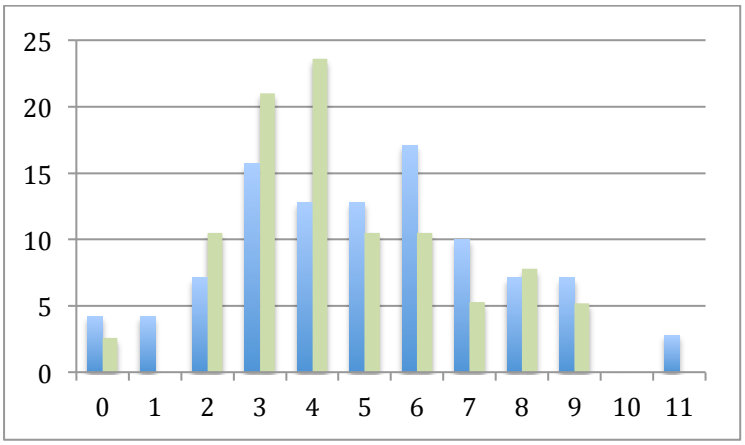
Hours per day spent on water and sanitation activities:



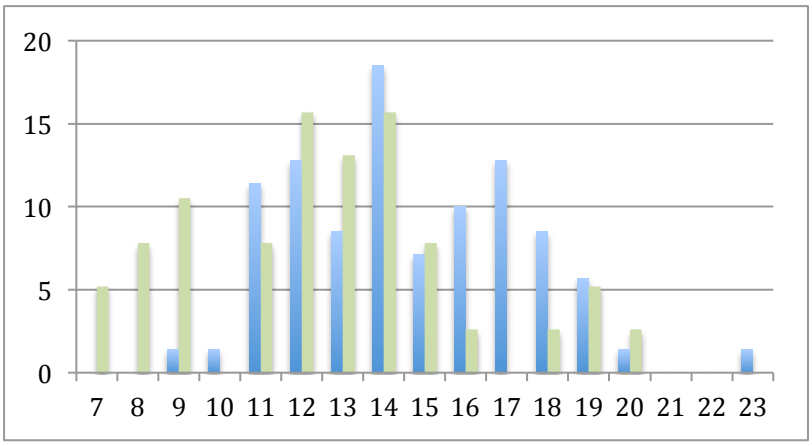
Hours spent on market work:



Hours spent on domestic work:



Hours spent on leisure:



QUESTIONNAIRE

India, Odisha 2016
Institution: Stockholm School of Economics
Supervisor: – Professor, Stockholm School of Economics
Contact at Gram Vikas: Debiprasad Mishra, Executive Director

Consent statement:
I am carrying out a study on "Empowerment of women with water and sanitation: a case study of rural villages in Odisha, India" with the help of the NGO Gram Vikas on its impact of their water and sanitation programs. The survey consists of questions regarding how you use your time during a day and your level of empowerment.

This survey is strictly confidential. Your anonymous answers will only be used in this analysis and will not be shared with any third party. Even if you agree to respond this survey, you can refuse to answer any question that you don't wish to answer.

I thank you in advance for carrying out the survey. Your answers can help NGO: s and policymakers in their future work in the area.

A. Demographic profile		
	Interview number	
A1	*Name of the village*	
A2	*Water/sanitation project*	Yes -1 No - 0
A3	Name of the respondent	
A4	Are you the head of the household?	Yes – 1 No - 0
A5	Do you origin from present village?	Yes – 1(Move to A10) No – 0
A6	Please specify Village/town, district, state of origin	
A7	How far outside village have you traveled?	Village – 1 District – 2 State – 3 Other state – 4 Outside India – 5
A8	Have you been a member of a SHG?	Yes – 1 No – 0
A9	Have you been a member of a village committee?	Yes – 1, Specify: No – 0
B. Household profile		
B1	Caste of household	SC – 1 ST – 2

		GEN – 3 OBC - 4 Other - 5	
B2	Type of family:	Nuclear – 1 Joint – 2	
B3	Is there anyone in the HH that is a migrant laborer?	Yes – 1 Specify who/where: No – 2 (Go to B.5)	
B4	Reason for migration (MULTIPLE RESPONSES)	Need for labor in area of migration	1
		Can't find work in village	2
		Lesser local wage	3
		Higher wage at destination	4
		Fascinated of city life	5
		Family/Friend/Relatives	6
		Debt repayment	7
		Family requirement	8
		Low agricultural production	9
		Others specify…….	88

B5. Family structure

No	**Names (START WITH HEAD OF HOUSEHOLD)**	Marital status (A)	Relation with head of household (B)	Sex (C)	Age	Can write (D)	Max level of school (E)	Occupation (F)
1			8					
2								
3								
4								
5								
6								

Children

Name	Sex	Age	Relation with Head of Household (B)	Highest education completed (E)	Attended school any time last year	Reason for not attending (G)

(A) 1 – Single, 2 – Married live with spouse, 3 – Widow, 4 – Divorce
(B) 1 – Spouse, 2 – Son or Daughter, 3 – Father or Mother, 4 – Grandchild, 5 – Grandparents, 6 – Other relatives, 7 – Daughter-in-law or Son-in-law, **8- Self**
(C) 1 – Male, 2 – Female
(D) 1 – Yes, 2 – No

(E) 1 – Illiterate, 2 – Primary, 3 – Secondary, 4 – Higher secondary**, 5 - College**
(F) 1 – Self-employed in agriculture, 2 – Self-employed in nonfarm enterprise, 3 – Student, 4 – Causal worker, 5 – Salaried worker, 6 – Domestic worker, 7 – Unemployed, 8 – Unwilling to work, 9 – Not able to work.
(G): 1 – Help in household chore, 2 – Help in agriculture field, 3 – Family unable to support, 4 – Take care of younger child, 5 – Other specify

C. Time use survey: please specify per hour how you spent last day					
Time	Occupation	**If double, specify:**		Occupation	If double, specify
04:00-05.00			13:00-14.00		
05:00-06.00			14:00-15.00		
06:00-07.00			15:00-16.00		
07:00-08.00			16:00-17.00		
08:00-09.00			17:00-18.00		
09:00-10.00			18:00-19.00		
10:00-11.00			19:00-20.00		
11:00-12.00			20:00-21.00		
12:00-13.00			21:00-22.00		

D. Water and sanitation			
D3	What is the main source of drinking water for members of your household?	Rain water, dam, pond, river Public well open Well in residence Piped public water Hand pump in residence Public hand pump Water tank	1 2 3 4 5 6 7
D4	Toilet/bathroom used is:	Open Defecation Flush toilet Toilet with septic tank	1 2 3

		Toilet with double soakpit Outdoors (skip D7)	4 5
D5	Where is your toilet/bathroom/open defecation situated?	Own house Outside house In village Outside village	1 2 3 4
D6	Do you have piped water in kitchen?	Yes No, IF NO SPECIFY:	1 2
D7	Where do you wash clothes?	Rain water, dam, pond, river Public well open Well in residence Piped public water Hand pump in residence Public hand pump Other sources – specify	1 2 3 4 5 6 7
D8	Do you/household use the toilet during menstruation?	Yes No DK/CS	1 2 88
D9	Do you/household use appropriate sanitation products during menstruation?	Yes No DK/CS **How often change/wash?**	1 2 88
E. Resources and assets.			
E1	What is the major source of lightning in your household?	Electricity Kerosene Lamp BPL APL	1 2 3 4
E2	What is the type of electricity supply to your household?	No connection Shared connection Own connection	1 2 3
E3	Does your household own any agricultural land?	Yes No	1 2
E4	If yes what is amount?	In acre: ….	
E5	What is your daily wage?	Amount: ____ Don't Know: 88	
E6	What is your husband's daily wage?	Amount: _____ Don't know: 88	
E7	Do you own:	TV Radio Telephone/mobile MC/Scooter Refrigerator Bicycle Domestic animals	1 2 3 4 5 6 7

Women empowerment. Who of the following takes the decisions in the household?			
i1.1		Other family members	1

	Who makes most decisions to purchase the food and clothing items in the house?	Only husband Both husband and respondent Only respondent DK/CS	2 3 4 88
i1.2	Who takes most decisions about education, cloth and other expenditures of the children?	Other family members Only husband Both husband and respondent Only respondent DK/CS	1 2 3 4 88
i1.3	Who makes most decisions on purchase of expensive item or for home improvement or repair?	Other family members Only husband Both husband and respondent Only respondent DK/CS	1 2 3 4 88
i1.4	Who decides about health care for yourself?	Other family members Only husband Both husband and respondent Only respondent DK/CS	1 2 3 4 88
i1.5	Who makes decision on your visit to family or relatives house?	Other family members Only husband Both husband and respondent Only respondent DK/CS	1 2 3 4 88
i1.6	Who decides the money you earn will be used?	Other family members Only husband Both husband and respondent Only respondent DK/CS	1 2 3 4 88
i1.7	Do you have a bank or saving account for yourself?	Other family members Only husband Both husband and respondent Only respondent DK/CS	1 2 3 4 88
i1.8	Do you take decisions on borrowing money?	Other family members Only husband Both husband and respondent Only respondent DK/CS	1 2 3 4 88
i1.9	Who makes decisions about where to invest surplus money of the households?	Other family members Only husband Both husband and respondent Only respondent DK/CS	1 2 3 4 88
i1.10	Do you spend money that you have borrowed?	Other family members Only husband Both husband and respondent Only respondent DK/CS	1 2 3 4 88
i1.11	Who decides how husbands earning should spend?	Other family members Only husband	1 2

		Both husband and respondent Only respondent DK/CS	3 4 88

Have you the power to do following activities independently?			
i1.12	Have you the power to cast a vote independently without any influence?	No power Less power Some power More power DK/CS	1 2 3 4 88
I1.13	Have you the power to go to market, health center and outside of village/community alone?	No power Less power Some power More power DK/CS	1 2 3 4 88
i1.14	Have you the power to go to friends, relative house alone?	No power Less power Some power More power DK/CS	1 2 3 4 88
i1.15	Have you the power to discussion with any government officers outside the household?	No power Less power Some power More power DK/CS	1 2 3 4 88
i1.16	Have you the power to participate in protection against social issues?	No power Less power Some power More power DK/CS	1 2 3 4 88
i1.17	Have you the power to participate in any training programs?	No power Less power Some power More power DK/CS	1 2 3 4 88
i1.18	Have you the power to participate in the election process?	No power Less power Some power More power DK/CS	1 2 3 4 88
i1.19	Have you the power to save and withdraw money from the Bank?	No power Less power Some power More power DK/CS	1 2 3 4 88
3. Only based on your previous knowledge how do you agree with the following aspects?			
i1.20	Daughters should have equal right on father's property like sons.	Strongly disagree Disagree Agree Strongly agree	1 2 3 4

		DK/CS	88
i1.21	Girls and boys are equal.	Strongly disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
i1.22	Girls should be marrying after 18 years.	Strongly disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
i1.23	Girls should choose husband and age of marriage by themselves.	Strongly disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
i1.24	Boys and girls in age of 17-25 years should be taught about contraceptive and HIV/AIDS in school.	Strongly disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
i1.25	Government hospital is the safest place for the delivery of the child.	Strongly disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
4. In your opinion, husband has right in hitting or beating his wife:			
i1.26	If she goes outside without telling him	Strongly disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
i1.27	If she disrespect mother-in-law or sister-in-law	Strongly disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
i1.28	If she does not take care of her child	Strongly disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
i1.29	If she does not cook food properly	Strongly disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88