



Improving water use for dry season agriculture by marginal and tenant farmers  
in the Eastern Gangetic Plains

## Gendered Access to Water Resources within the Feminization of Agriculture

*Working Paper*

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## 1. Researching Gendered Access to Resources within the Feminization of Agriculture

The trend of rural to urban migration in the Eastern Gangetic Plains for better employment opportunities affects both local gender relations and global food security. While it is predominantly men who migrate to South Asian cities or to the Gulf States and Malaysia to find work which can feed their families, women, the elderly, children and youth are “left behind” in the rural areas. Despite receiving remittances, many “left behind” continue working in or take over agriculture. While women used to take care of reproductive tasks such as taking care of children and the elderly, household chores and livestock rearing, they now enter a new space which previously was men’s: farm management and income generating labor. This has far-reaching effects on their mobility and time used, and gendered access to resources takes the center stage. As the literature on the feminization of agriculture has pointed out, this is associated with both new vulnerabilities, such as an increased work burden, and opportunities for women’s empowerment (Adhikari & Hobley, 2011; Bieri, 2014; Maharajan et al., 2012; McEvoy, 2008; Paris et al., 2005; Fraser Sugden et al., 2014; Sugden et al., 2015). Vulnerabilities can be created through gendered access to and control over resources such as water and land. Gendered norms and behavior constrain opportunities to engage in public and economic activities, which adversely impact opportunities for women to access knowledge, acquire skills and strengthen bargaining power to access resources. This influences women’s agency that is the ability to define one’s goals and act upon them (Kabeer, 1999).

While the literature body on the feminization of agriculture consists of predominantly empirical studies investigating how male-out migration has impacted the “left behind” in terms of access to resources, the link to concepts relevant to gender and development studies, in particular, women’s empowerment, has not been explored. Linking both concepts could ground the debate on feminization of agriculture theoretically and move beyond a simplified quantitative understanding of the feminization of agriculture (‘more women are involved in agriculture’). As the term “feminization” linguistically hints at a process, examining new vulnerabilities and power shifts in gender relations may help to conceptually frame underlying structural changes in the context of an agriculture in transition in South Asia.

This research report examines how changing gender relations impact women’s access to water and land resources by examining women’s empowerment and their perceptions on being a farmer within the feminization of agriculture in the Eastern Gangetic Plains. How community members can access resources varies strongly with gender, age, caste, religion, ethnicity, education and the economic background. Hence the research objective is to understand the state of critical consciousness, reasoning and decision-making capacities of particular groups within communities in regard to water access, control and use for agriculture. To strengthen communities’ resilience against water variability, the study sheds light on how environmental, economic and social knowledge and capacity building can be promoted and institutionalized to empower women and marginalized farmers for agricultural productivity.

With the example of water use for dry season agricultural production in the Eastern Gangetic Plains, the study investigates gender relations in access to and control over water for agriculture. Related to increasing agricultural productivity is not only water, but also access to land, institutions and markets, and the adoption of technological innovations. These gendered relations to resources are investigated by focus group discussion, questionnaires and literature review data to examine how feminization of agriculture and the rise of women-headed households is changing agricultural processes.

## 2. Research Questions

The research objective of this study is to understand how gender relations to water, land and agriculture are changing through male out-migration. For this purpose, gendered spatial and temporal patterns are identified, i.e. it is examined how mobility and time use are affected. To understand the construction of women's identity as farmers, women and men's critical awareness on gender relations, as well as their perception on agriculture and each other's role in agriculture is analyzed. Hence this study aims at engaging with underlying gendered norms and behavior which shape women and men's relation to resources. The research findings contribute to the project's approach and strengthen women's identity and self-esteem as farmers in that opportunities are created to become *effectively* included in decision-making processes on irrigation. The results may help to understand how decision-making processes on water resources need to be re-structured to provide more opportunities for the active inclusion of women as well as changing perceptions on women's capacities. The detailed research questions are:

**How do changing gender relations in the context of the feminization of agriculture shape the construction of women's identity as farmers, and to what extent does it influence decision-making processes on water and land in the Eastern Gangetic Plains?**

- 1) How does male out-migration **change gender relations** to water, land and agriculture?
- 2) How do changing gender relations shape **women's identities** as farmers?
- 3) To what extent are **decision-making processes** over resources re-structured by changing gender relations?

Figure 1: Gender research questions

## 3. Conceptual Approach to Researching Gendered Resource Access: Women's Empowerment

Empowerment is a term widely used by academicians, policy makers and development workers, which has resulted in a vague and contested nature of the term's conceptualization. For this study, I frame empowerment as a multidimensional, relational and processual concept. Based on the definition of Kabeer (1999: 346), empowerment is "the process by which those who have been denied the ability to make strategic life choices acquire such an ability". She conceptualizes empowerment as a *process* of change from disempowerment to empowerment by expanding people's ability to make first order decisions which result in *desired* outcomes. The ability to make strategic choices incorporates three interrelated dimensions: *agency*, *resources* and *achievements*. The ability to define one's goals and act upon them determines someone's *agency*. However, this choice is only possible if alternative options exist, which enables the "emergence of a critical consciousness, the process by which people move from a position of unquestioning acceptance of the social order to a critical perspective on it" (Kabeer, 1999, p. 440 ). A pre-condition to exercise choice is the access to and control over material, human and social *resources*. As a further dimension, the *achievements* of choice must be understood in terms of well-being outcomes (e.g. nourishment, health, shelter...) as this sheds light on the equality of, and not differences

in choices. The interrelation of these three dimensions models the process of how resources translate into the realization of choice as well as its impact.

In addition to these three dimensions of empowerment, I add awareness as a fourth dimension, conceptualized as the *critical consciousness* by Freire (1996). A critical consciousness is an important precondition in addition to resources and to agency. A critical consciousness of gendered relations and practices due to cultural norms, communication processes and knowledge transfer is necessary to understand the socio-culturally embedded roots of unbalanced power relations.

This processual perspective can be linked to the relational view of Rowlands (1998) who takes different scales of agency into account. Rowlands (1998: 23) constructs a model of empowerment in different spaces of women's lives by differentiating between *personal* and *collective* power, and also the power in *close relationships*, particularly with husbands and immediate family members, as product of empowerment processes. "Power within" refers to enabling personal qualities of self-acceptance, self-respect or spiritual strength (Rowlands 1998: 14). "Power with" relates to collective power which can be greater than individual power. The integration of these perspectives is visualized in Figure 2. The scale arrow extends from the individual to the household to the community level, while the time arrow demonstrates the sequence of examining empowerment.

Most importantly, empowerment needs to be viewed as a highly contextualized, multi-dimensional process on which women themselves have differing perspectives. Hence it is important to understand subjectivities embedded within social networks, and research has to identify respective influencing factors and their interlinkage in specific contexts.



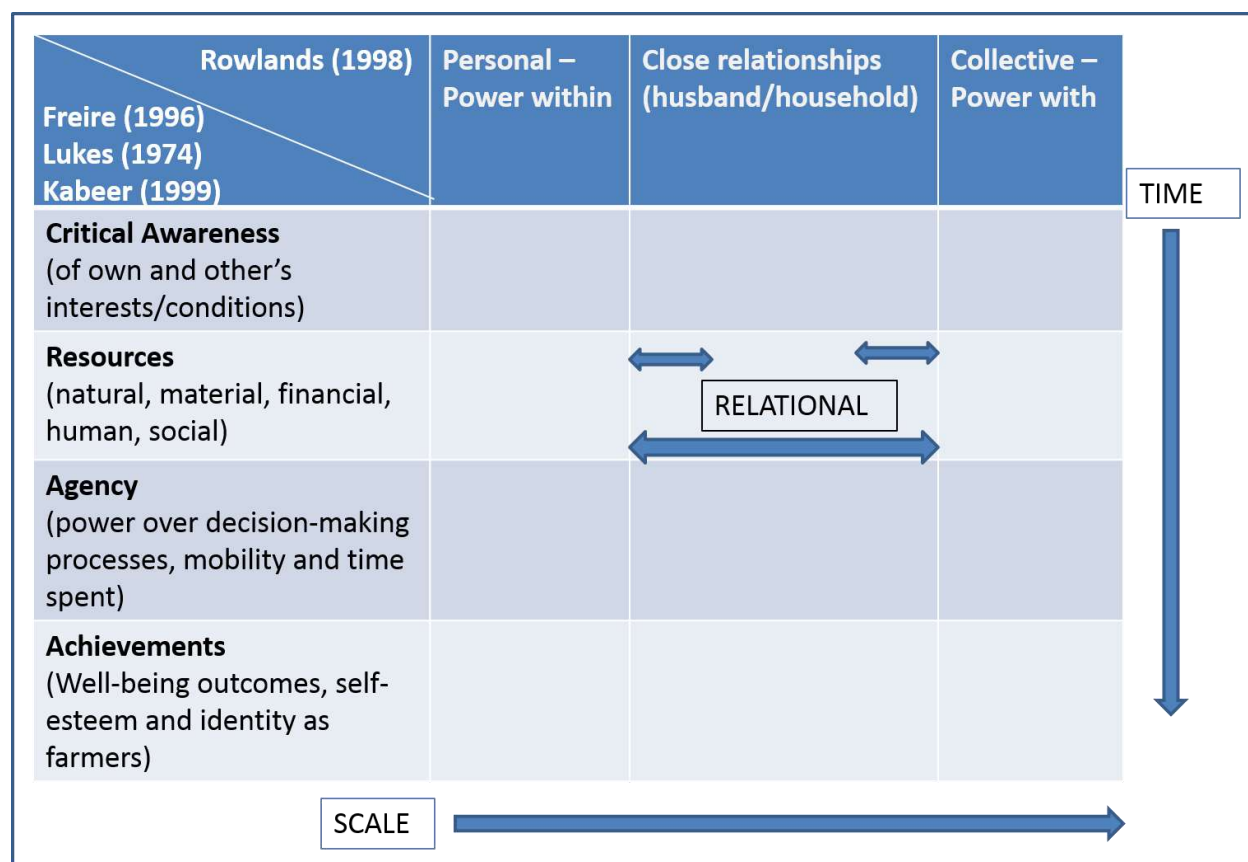


Figure 2: Researching empowerment based on Kabeer (1999) Rowlands (1998), Freire (1996) and Lukes (1974)

#### 4. Methods

To analyze how gender norms and behavior constrain awareness, resources, agency and achievements on water access, this qualitative study examines 65 in-depth interviews with female and male farmers of different caste, religion, ethnicity, age and socio-economic backgrounds in the ACIAR sites. Focus group discussions were conducted with different farmer groups (gender-disaggregated, marginal farmers, land and pump ownership etc.) to understand the impact and perceptions of migration on women’s identity as farmers. The questions aimed at understanding whether and how agricultural practices, access to water resources and decision-making processes on water changed through male out-migration amongst different farmer groups. The underlying objectives were to create lively discussions to understand negotiation processes on water access and use in agriculture in the context of feminization of agriculture. In particular, I examined whether and how gendered water access is critically mentioned. Furthermore, I identified the reasoning behind particular agricultural practices and perceptions. Lastly, I analyzed argumentation patterns to understand decision-making capacities.

To understand villagers’ perspectives on their community and to locate relevant geo-physical markers within the communities, village resource maps were drawn by farmers. Observations in the field were continuously documented with photos and in field notes.



Table 1: Focus Group Discussions and interviews at the ACIAR sites

Date	Days in the Field	Field Sites	Focus Group Discussions	Interviews
19.- 25.3.2015	6	Dholaguri (West Bengal)	4	22
21.- 24.4.2015	4	Khokser Parbaha & Koiladi (Saptari)	4	11
8.-15.5.2015	6	Bagwatipur & Mauahi (Madhubani)	4	17
17.- 28.5.2015	11	Dhandoguan (Thakurgaon) & Ramnatherpara (Rangpur)	9	15
<b>TOTAL</b>	<b>27</b>	<b>7</b>	<b>21</b>	<b>65</b>

## 5. Field sites

### The village Dholaguri in West Bengal

The village Dholaguri is located in Ambari Gram Panchayat in Cooch Behar II block, at the northern end of West Bengal. The village is divided into two parts, Dholaguri (4) (north part) and Dholguri (5) (south part). Dholaguri covers 502 households with a total population of 2,279 (Census of India 2011). According to the Census of India 2001, 2008 people lived in Dholaguri, which indicates an annual population growth rate of 1.28 %, which is close to the annual Indian national population growth rate of 1.25 % (Census of India 2011). Most parents have only two children, as women get sterilized for free after giving birth to their second child, however not after more than two births. 1,209 are male and 1,070 are female, which translates in an unbalanced sex ratio of 113 men to 100 women. Within the Ambari Gram Panchayat, 74 % are Scheduled Caste (SC), and 4 % are Scheduled Tribes (ST). The remaining population of about 22 % are General Caste. According to the information of the community, around 80 % are Hindu and 20 % are Muslim and a small group of Adivasi/Janajati population lives in the village, but there are no Dalits.<sup>1</sup>

Table 2: Communities in Dholaguri, West Bengal, and their number of households

Habitation in Dholaguri	Number of Households
Purbapara	120
Colony	35
Mandalpara	40
Dhonitari/Debnathpara	65
Matsojibipara (fishery community based habitation)	27

<sup>1</sup> The upcoming socio-economic survey data will give more specific data on the village population.

Dakshintari/Muslimpara	55
Shilpara/Napitpara (barber community based habitation)	50
Uttarpara	110
Total of 8 habitations	Total of 502

According to farmers, migration of family members is found among 25 to 30 % of families (around 300 families). Due to migration, some families are seasonally women-headed. Mainly landless and tenant farmers, but also bigger land-owning family members migrate for about 1-7 months a year as they depend on seasonally available jobs (cf. Paris et al. 2005: 2523). In some cases, male members migrate for 1 to 2 years. Migrants are predominantly young male, because of cultural restrictions on female mobility and domestic work, which lays in the responsibility of women. Places mentioned were Kerala, Jaipur, Delhi and Bhutan, where men migrate for manual labor (notably, not agricultural), with which they earn higher salaries than in the village. According to the perception of a group of female farmers, “people who own enough land do not migrate” (WB\_FGD 3), which was, however, not found to be true, as also young male farmers with 10 or more bigha migrated while the mother is hiring wage laborers. In the cities, earnings are about 200 to 250 INR, and therefore more than 150 INR as a wage labor earning in the field.

In the monsoon season, 100% of paddy is grown. Paddy is perceived as being much less work than potatoes and other vegetables. In the boro (dry) season, 50% of the land is cultivated and crops in the village are diverse: potato, tomato, maize and other vegetables, as well as chilli, turmeric and further spices. In the spring season, 30% of land is cultivated, mainly for jute. Families would benefit if they grew more than only one crop (usually potato) and diversify their cultivation through other vegetables, spices, mushrooms and ajola. However, women mentioned that they have no understanding of the planning of crop cultivation (WB\_I7).

Ponds for fishery (2 from government, around 50 to 60 private ponds) dry up during the winter season and overflow during monsoon, which leads to loss of fish. Fishermen earn 100-150 rupees daily from fish. They fish twice a day, in the morning from 7am to 11am and in the afternoon (I7). Most families also own livestock, including at least one cow and chicken.

## The villages Khoksar Parbaha and Koiladi in the Eastern Terai

### Khoksar Parbaha

In Khoksar Parbaha, there is one agricultural cooperative for women with nine Mahila subgroups. The groups have monthly board meetings and an annual general meeting. The cooperative is managed by Asha with one supportive staff. Members receive 8% interest rate for their savings, and have to pay 18% interest rates for loans. Muhila groups do not bring problems to the cooperative management. The group was initially started by GTZ, and is still functioning.

There is one community forest group with 24 members of which eight are female. Since 2014, the group has its first female leader, Musandi. Before, there were only male members, let alone leaders, but as there have been issues concerning the misuse of the budget, Musandi was welcomed to lead the group. GTZ initiated once an adult literacy program with local teachers. For attending school, two groups of women

attended three times a week classes. As incentive for one attendance they received 0,5 kg rice. The ward representative is a young educated landowner who is respected within the community.

In the village Khoksar Parbaha, a government pond is managed by the pond management group which includes villagers living next to the pond and water users. Of 11 pond management members, 4 are female. The secretary of the group is selected and not elected, that is that the most outspoken participants suggest, discuss and decide candidates. A better understanding of the process of deciding positions in water management groups is only possible through direct observation in meetings, as the exact process could not be reconstructed in interviews. In meetings it is decided how much water costs per hour (55 NPR for 1 katta). The irrigation costs are 150 to 200 NPR per hour. Most of the land is, however, rain fed, as only few fields can be irrigated from the existing water resources. This limited access to irrigation was identified as the biggest constrain in agriculture. A possible solution suggested was to make use of the river water, but focus group participants also admitted that they do not have the means to do so. In the village are also two ponds started by GIZ which can irrigate a great area, but these need new pipes.

### Koiladi

Within the VDC Koiladi are nine wards with one representative each, who are responsible for two villages. The VDC representative is Yuva Manch. Only one of the nine ward representative is female. She, but also the other ward representatives were accused of being not interested and not taking responsibility for their wards. Instead they would only file and register government issues, while being busy with important personal things.

There used to be a Save the Children group which tried to motivate children to attend school and to educate parents on a balanced diet. Binda is a controversial leader of the group. She has a loud voice and scolds other women. Thus she has influence within the village and gets involved into household quarrels. Even men are scared of her, as her interests are unpredictable. Another women called her an initiator of quarrels. She was elected as assistant to the Save the children group by popular selection as she was outspoken.

In both villages, alcoholism among men was mentioned as a major problem. Women stated to suffer from their husbands who beat them, quarrel their families and do not take care of their children.

The closeness to the Indian border of the villages led villagers to recognize agricultural advantages in India, and to benefit from these advantages, if cycles are affordable:

*“Indian fertilizer, food, and labor is cheaper, so we buy there, we are going by cycle. People in India get support from government: food subsidy card, kerosene and oil is cheaper, the educated can work for Anganwadis, and there are lower interests on loans from the government, and electricity is for free” (T\_16).*

## The villages Bhagwatipur and Mauaahi in Madhubani, Bihar

### Bhagwatipur

In Bhagwatipur there are a total of 256 households with a majority of Yadavs (OBC), Rams (SC) and the fisher caste Mallah, and only one Brahmin Table 3: Castes in Bhagwatipur, Madhubani, Bihar (cf. Table 3). Male out-migration was mentioned as a wide spread phenomena, even for young boys at the age of 12 or 13.

Table 3: Castes in Bhagwatipur, Madhubani, Bihar

Castes in Bhagwatipur	Number of Households
Yadav (OBC)	160
Ram (SC)	51
Mallah (fisher caste)	45
Brahmin	1
Total	256

There is one female ward representative, Chitli Devi (Ram), who is the wife of an influential man, but it was stated that “she only signs, he goes to meetings” (B\_I4).

The NGO Sakhi works in the region since 1996 and has implemented self-help groups and women-led fisheries in Bhagwatipur. There are seven self-help groups (SHGs) in the village. Beena is secretary of one of these SHG with 14 members who pay 20 INR per months. They conduct meetings on the first of every months to discuss money purposes and transactions. The secretaries of all seven SHGs meet on the 15<sup>th</sup> of every months to discuss the savings, transactions and activities of their groups, and also assist each other’s work.

In contrast to the statements in West Bengal, the women described to have the “we” feeling, e.g. one female member’s son broke his hand, he was brought to the hospital and first aid and financial help was done by neighbors and relatives.

Neither the secretaries nor any other women participate in gram meetings. They perceive these meetings male dominated, and are questioned when they show interest in participating. As a group of women, they would go, but they could only listen and were not allowed to speak.

### Mauaahi

Mauahi is located within the Babubhari Panchayat. There are 556 households in total with approximately 60% of Brahmins, who are mostly land owners, 25% of Muslims, who are mostly wage laborers, and 15% of OBC and SC. The Brahmins are mostly poor and would not interact with Muslims or share drinking water or enter Brahmin’s households. But in occupations, they mingle as muslims can work for Brahmins in construction and farming.

Almost all women’s husband migrated to cities. Women stated that their husbands migrated even before and just returned for their wedding. This has major complications for women, as they felt burdened with agricultural labor as soon as they moved to their in-laws home.

A land owner explained the rules that any crops beyond 10 kg wheat and 30 kg rice per kata belongs to the farmer, and if the harvest is less than that, land owner and tenants receive an equal share of crops. This indicates that an increased production is to the benefit of the tenant, however, in years of low harvest, they have to buy crops themselves. In the last season, tenants had 22kg/kata wheat and 50 kg of rice, and therefore sufficient.

## 6. Preliminary Research Findings

### 1. Critical Awareness: Perceptions on female farmers and male out-migration

#### Changes in the division of labor and gender ideologies

Women's work traditionally is considered to take place within the reproductive space, meaning that they take care of children and the elderly, as well as household related chores such as cooking, fetching drinking water, cleaning and washing. In contrast, men's work is perceived to be linked to the productive space that is economic activities outside the household, such as fishing, selling and negotiating with middle men- and increasingly with off-farm economic opportunities leading to migration. Within agriculture, women take over menial work such as transplanting and harvesting, while men irrigate, plough and apply fertilizer and pesticides (cf. Fig. 6). Associated with this are perceptions of women's work being less valuable - as one elderly man put it in West Bengal, "women's work is not work because she does not earn" (WB\_I7). However, due to male outmigration, women take over some of these male tasks in agriculture and enter the productive space. What are the consequences of these changes in the division of labor for prevailing gender ideologies?

During field work, both women and men showed strong perceptions on how a male and a female person have to behave, and how particular tasks and personal characteristics are attributed to being female or male. While women were portrayed as inexperienced, dependent and accepting, male were perceived as experienced, knowledgeable and guiding. When, for example, one woman was pointing out her limitations to engage in economic activities as she could not count, other women participating in the focus group discussions in Koiladi (Terai) were laughing: "Don't worry, if you can't count money, your husband will take care" (T\_FGD2). This shows a positive perception of the existing co-dependence of husband and wife for life skills and support. Gendered relations are not questioned, but the clear role allocation of husband and wife seemed to provide a complementary and comfortable unit.

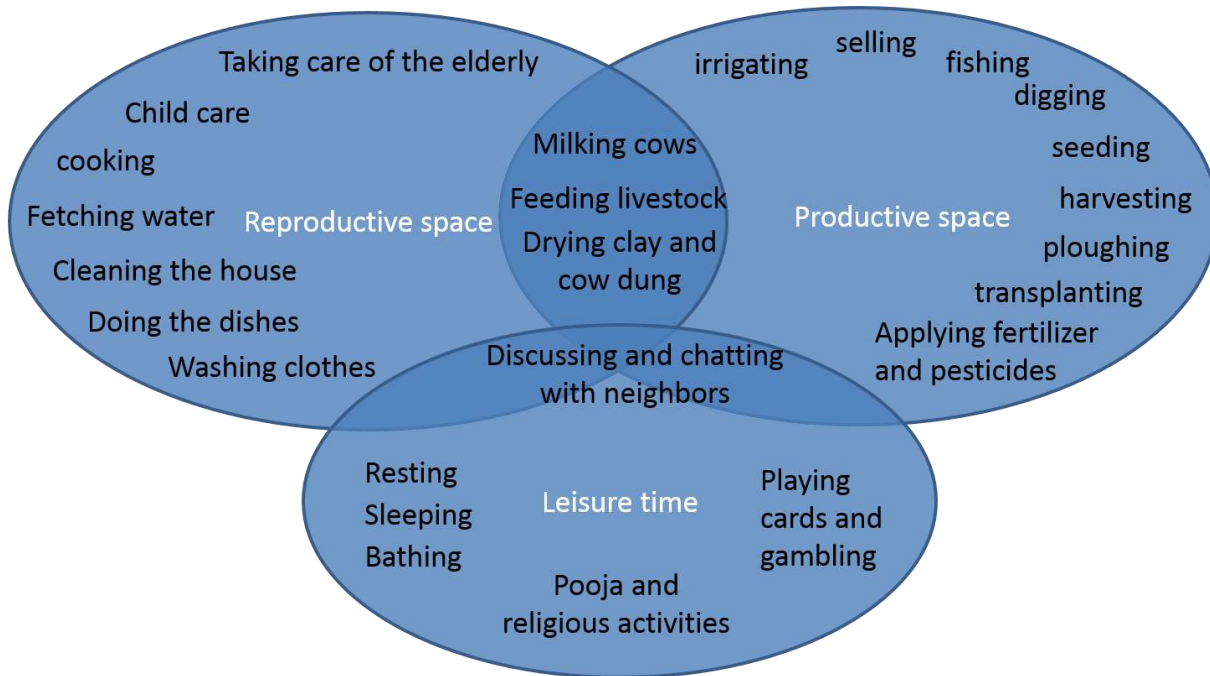


Figure 3: Reproductive and productive space observed in the field sites

Interestingly, a young girl questioned in a focus group discussion in the village Khoksar Parbaha in the Terai: “Why do men not cook?” The answer of older women was hinting to the fear of men of engaging with a task which is attributed to female’s domain, and being called as such: “If husbands cook, they are called womanish” (T\_FGD2), using the word “janani” in the local language Maithili. This indicates that challenging the gender rules on the division of labor would most likely be avoided because of a fear of stigmatization. If, however, someone dares to threaten the gendered division of labor, and enter the opposite gender domain, it also provides an opportunity for both women and men to experience contradictions and question their own perceptions and attitudes, and a critical awareness arises. Despite her leadership qualities, one woman stated in a focus group discussion in Koiladi that she was not accepted in her position as leader because of her gender:

*“If women are heading a group, she will face problems, people will comment because of her sex: she is female, so she is not a good leader, no matter how good her work is” (T\_FGD3)*

These existing gender roles are challenged through male out-migration. In the process of taking over farm labor and farm management, women become more conscious about their capacities (“I realized I can earn money myself when my husband is out”), but also their limitations, as they are dependent on others to irrigate and cultivate land (see chapter 6.2).

Through mobile phones, husbands continue to consult or make major strategic decisions with husbands living outside, e.g. on buying agricultural inputs. This may reinforce women’s perceptions of being dependent and inexperienced farmers, resulting in a low self-esteem. Women mentioned that they do

not feel uncomfortable because they perceive it as their duty to work on the field when their husbands are gone (BD\_I9).

Some women in Dholaguri, West Bengal, felt it was a compulsion to work as farmers on the land. When women were openly asked which support they need, they said they would like to work from home, instead in the fields, and make e.g. candle stakes. This demonstrates that more benefits are seen from other more comfortable and creative work than agriculture. Another woman perceived working on the field in the sun as degrading the skin and thus leading to lower beauty (WB\_I8). As the women stated, she is looked down upon by her sister-in-laws, who are not farming and stay inside, so their skin does not turn dark and get wrinkles and cracks. This demonstrates that female farmers perceive working on the land as harmful to women's dignity, which is strongly linked to young and beautiful looks.

One woman in Dholaguri stated, "when husbands migrate, we are free" (WB\_FDG 4). This statement can be interpreted in both time and space scales. On the one hand, the woman perceived to have less work, e.g. by washing and cooking for their husband. Another woman indicated that she cooks three times a day when her husband is there, but only twice, when she is alone. On the other hand, they are also free to leave their primarily occupied domestic space and enter more frequently and for further distances the public space. They need to go to the bank, to the market or other institutions (places where before the husband went) and can stay outside as much as they want as long as they do not live with their in-laws. Dealing with people outside the village is challenging but makes them also feel more confident, as they realize they can earn money and manage a household and their farm all by themselves (WB\_FDG 4). As men's absence requires more decision-making from women on agriculture and livestock, they stated to feel more confident. These observations give the impression that women in women-headed households are more empowered than their counterparts and that their awareness of their own capacities raises. Furthermore, a women stated mental and physical relief: "We have a lower work load when the husband is gone because we don't need to prepare food for him, we think less and have less heavy work, only our own work and the children" (WB\_FDG 3). Another women mentioned to feel more caged in the house when her husband is around.

In Dholaguri, West Bengal, women stated that their husbands sell their products informally to middle men or sometimes themselves at the market, as in bargaining processes; there is "more respect for the husband" (WB\_FGD 1). Furthermore, men have "more information and understanding of the market" (WB\_FGD 1). These two deeply culturally entrenched markers of men preferences in terms of respect and knowledge in negotiation processes demonstrate strong gendered perceptions of women's and men's roles in productive work which continue despite the increasing absence of men.

### Perceptions of insecurity

There are also negative feelings associated with the absence of men: women feel alone and are worried that their husbands could have an accident (WB\_I1). Although they do not get harassed, a woman stated not to "feel good alone" (WB\_I1). Further, they faced problems with male specific tasks such as ploughing and fertilizers. In these cases they seek help from their neighbors or other male family members, or hire a laborer to plough for 200 INR per hour. They also work more productively themselves in general, as they cannot rely on the remittances of the husband. One effect of migration is that women become mostly



wage laborers in the village when their husbands are gone. Therefore there is a shift of wage laborers in that increasingly women take these jobs.

Some women showed a strong awareness about their limitations to advice their husbands on agricultural farming due to gendered perceptions on their knowledge. Even if women are conscious that they have knowledge, this will not be accepted because of their gender. In Koiladi, Terai, one women stated “husbands cannot accept all what women say because they don’t want to be below women” (T\_FGD3). In this way, women’s voices are silenced despite their knowledge. Similarly, women stated that “Women work in the field like men, but are not empowered” (T\_17). They perceive a gap despite their skills and knowledge and state their perceived injustices in gender, however, they did not advocate for changing these.

Due to these constraining gendered practices, it seems that women feel as “substitute farmer”, or “second choice farmer”. As their husbands used to be the farmer, but now have migrated, women take over farms as they see it as their duty – and not their choice - to do so.

While some women perceived migration positively for their self-esteem and enjoy greater mobility, others feel insecure in dealing with “male tasks”, e.g. getting overcharged for agricultural inputs due to a lack of knowledge and bargaining power as well as some worry about their own and their husband’s security (cf. Table 4).

*Table 4: Women's diverse perceptions on migration*

Positive	Negative
Income helps to pay basic household expenses, to repay loan and medical expenses.	Facing problems finding labor for ploughing, sowing, fertilizing, irrigating – “hard and dirty” work to be done by males. If no son, asking neighbors for help (WB) → women do not have the same networks as men
Few could also rent land, buy STW and diesel pump set	Women get overcharged for agricultural inputs, as they, unlike their husbands, do not know the prices and lack bargaining power
I realized I can earn money myself when my husband is out (CB)	Work load has increased during agricultural seasons, e.g. husband purchased agricultural inputs
Women do not feel shy to speak to strangers anymore, they have become active	Feeling insecure and lonely, worried about own and husband’s security
“When husbands migrate, we are free” (CB_FDG 4) → greater mobility, greater decision-making opportunities	Receiving less information, e.g. on government projects, as husband is source person for information and not attending meetings anymore

## 2. Resources

Women and men have different opportunities to access resources, shaped by their particular social, economic and cultural background. Women's age is important as it is related to their expected behavior and mobility, their economic background determines, for example, their workload, their land size and their ability to hire wage laborers. Caste plays out in that e.g. Brahmin wives are not allowed to work, while Dalit wives are expected to work. These context-specific divides are strongly mediated by individual knowledge, skills and bargaining power which can help women to e.g. buy fertilizer despite of their attributions.

### Gendered access to water

Accessing irrigation takes time and patience, and means discomfort for women as it used to be the task of men. Entering the male domain of irrigation is linked to accessing public space and negotiating with usually other males who own pump sets and tube wells. This challenges gender norms, which women become critically aware about, but also experience as distress. However, women develop means to circumvent these challenges by asking and sometimes even paying something extra to male family members or neighbors to negotiate with the pump owner and to arrange irrigation for their fields (e.g. B\_FGD1). This shift of responsibilities from husbands to other men in the family or neighborhood can sustain or even increase women's dependence on others in the process of male out-migration. Gendered relations are further reinforced as women continue to be withdrawn from the public and do not challenge the existing restrictions. In Loha Piper (Madhubani), for example, one women whose husband migrated admitted that her brother solves problems for her as alone she cannot rely on getting water in time (B\_17). Two women in Loha Piper and Baghwatipur stated that they had to delay cooking for their children when to ask repeatedly the pump owner for water (B\_23, B\_28). To support each other, a Barter system is still in place in which women provide their labor for transplanting and harvesting in the field in exchange for their male neighbors' labor to negotiate with the pump owner and to arrange and supervise irrigation for their fields. The Barter system as reciprocal exchange of services may be benefitting for both parties, but could also be regarded as a medium which facilitates and sustains a gendered division of labor.

In interviews in Loha Piper and Baghwatipur in Madhubani, Bihar, women stated that they feel less powerful than men to access water, particularly if they lack good relations to the tube well and pump owner and if they do not have sufficient land holdings:

*"I have to run after people to get water. People listen more to my husband, he can build pressure, but I can't. As I am a woman, they take it easy. They ignore and neglect me because I am a woman. There is not much to do about it, I have to face it and run four times, if it is like that" (B\_14)*

This demonstrates that women are conscious of both the need and their limited capacity to pressurize, and also the rigid structures and their powerlessness to change the gendered norms which rule access to water. They accept these conditions and act accordingly by approaching tube well owners more often as they are not valued as much important customers as men. Two reasons were mentioned for this: One women in Baghwatipur, Bihar, stated that men usually pay instantly, while women often have to delay paying for irrigation as they have to wait until they receive remittances, or they even take loans (B\_30). In

the villages of Koirala and Parbaha in the eastern Terai, some women use the metaphor of the firmness and volume of the voice to illustrate their limited capacity to demand for irrigation:

*“The one who has a powerful voice gets his field irrigated first, so women whose husbands are out are usually more softly spoken and do not get their fields irrigated”*  
(T\_13)

This metaphor of a physical feature, a powerful voice, depicts a collection of power features attributed to individuals. This can be, for example, the gender, the number of male family members, the wealth in terms of land ownership, and caste. This shows that these factors can also increase the breakdown position in bargaining for irrigation.

As already noted in the CCAFS study by Sugden et al. 2014, some women noted that they do not have the networks and contacts of their husbands and that they feel uncomfortable approaching male neighbors to request the use of a well. For example, in Baghwatipur, Bihar, one woman stated that men are more mobile and randomly wander around the village and, therefore, they can remind the pump owner more frequently to use the pump than women, who only go once to ask (B\_28). Men are in contact with the pump owner to discuss other tasks of farming, such as land tenure regulations. This also links to the gendered upbringing of children and signifies the deeply rooted socio-cultural meaning of being male or female, which strongly shapes interpersonal relationships. Acquired female attributes of being more reserved, in contrast to boys who are raised to be more outspoken.

Some women in a focus group in Saptari complained that they were often overcharged, on the pretense that they could afford it as they had a husband abroad (Sugden et al., 2015).

Despite their mostly critical awareness of the difficulties they face, women accept the burden of asking multiple times for water as they do not see any opportunity how to change this. Women referred to their experiences as a collective constraint for women-headed households. While a younger woman noted to be hopeful for having more decisions in the future, an elder woman noted “I have had hope, but at that time I have died” (BD\_FGD). This shows that the younger generation of women expects change, possibly because they are more likely to be educated, or because they feel more empowered than their mothers and even more than their grandmothers.

The focus group discussions highlighted that it is very important for women to have access to irrigation, however, their need to also control these, and be part of the decision-making on water resources, was interestingly not mentioned. On the one hand, this could be cultural, as women perceive it as inappropriate for a female to be in a guiding position within the community. On the other hand, it could be to the mistrust in institutional structures and the limited capacity these have.

#### Experience from Thakargaon, Bangladesh: Irrigation Smart Card

In the village Dhondogaon, water is paid for with a **smart card**, which is inserted into a machine for a particular time to irrigate through a DTW and channels. This has made water access for women more comfortable, as they only have to give the card and can rely on getting sufficient water, without running after pump owners. However, this system lacks a control mechanism of the water flow to not overuse water.

The socio-cultural constraints of renting pump equipments and tubewells are complimented by the limited capital available to invest in pump equipment or the groundwater market. The IWMI study from Saptari and Dhanusha noted that following out-migration of males, the proportion of households across wealth categories who had invested remittances in agricultural equipment/infrastructure such as pump sets, tractors or borewells was below 5% (Sugden et al., 2015). In the same study, only 36% of surveyed women-headed households in Madhubani and 33% in Dhanusha had used a pump set in the last year to pump from ponds or tubewells. Pump set use for male-headed households is 62% and 67% respectively. A woman in Jijha village in Dhanusha noted how they used to cultivate vegetables commercially when the husband was in the village. He would coordinate with neighbors to arrange the pipes and equipment for tube well irrigation and would go to the market to buy inputs such as pesticides and fertilisers. As no male was there to manage these inputs after her husband migrated, she has abandoned vegetable cultivation and cultivates only paddy, wheat and *musuri* dhal. Another household in Thadi nearby noted how they had also abandoned vegetable farming for the same reasons.

The IWMI study in Saptari and Dhanusha collected data on irrigation use before and after migration (Sugden et al., 2015). For 18% of tenants and 14% of smaller owner cultivators, there had actually been a decrease of irrigation use, due perhaps to labour shortages or women avoiding the burden of accessing water. There are however also a handful of households who are now irrigating land which was previously rain fed, although this included only 10% of tenants as opposed to 24% of small owner cultivators and 28% of larger owner cultivators. This highlights the cost constraints faced by poorer farmers.

#### Costs for accessing water in Dholaguri

The area of Dholaghuri covers 724.63 acre and is located along the Ghorghori River. The river almost dries up during summer. During rabi season, farmers use a Government River Lift Irrigation (RLI) system with an irrigation capacity of 80 hectares. During the boro (dry) season, around 12 shallow tube wells are used. These need to be accessed through 5 electric pump sets and 3 diesel pump sets which are rented for 200 INR per hour. Pump set owners are, for example, Shajal De and Bijual Das. For domestic purposes, 250 household tube wells are in use since the government in 2008 and 2009 established them.

Water irrigation is expensive for tenant and small farmers, because of the high costs for renting a pump set. Farmers of 4 to 5 bighas cannot invest in a pump, but need 25-30 hours per season at a cost of 200 INR per hour. This results in water costs of 5000 INR to 6000 INR for one potato season. The costs of a diesel pump and a shallow tube well with 3 inch diameter GI pipes and depths of 50 to 60 feet are 30,000 INR, and of an electric pump 25,000 INR, of which 50% get subsidized by the government. However, poor farmers cannot invest in a pump, and instead pay pump set renting costs every potato season of 1,200 INR, although they could pay off a pump in around 2.5- years, considering the savings of renting costs.

*Box 2: Costs for accessing water in Dholaguri, West Bengal*

### Gendered access to land

There are two major issues associated with land ownership and gender. The first relates to how much land the household as a whole has access to. This has important bearings on women in the context of male out-migration, as access to land shapes the overall food and economic security of the household, and can directly mediate women's upward mobility and capacity to make investments to improve their livelihood in a changed demographic context (F Sugden et al., 2014). The second issue relates to whether women themselves are the actual title holders for the land – a factor which can also have a significant impact on women's livelihoods and access to resources.

With regards to the first issue, there is considerable variation between households in terms of their overall land ownership – particularly in the highly stratified villages of Madhubani and Saptari. Past research in Madhubani and the Nepal Terai showed that women from larger farming households fare better following the migration of a family member. With a larger land holding, one has enhanced food security, and cash sent through remittances can be invested not in meeting excess food needs but in productive fields such as micro-enterprises, livestock, or agricultural inputs (F Sugden et al., 2014). This is reflected in the general perception of villagers that “only if you have enough land, you can raise a family” (WB\_I1).

In the case of migration, remittances can themselves be used to increase one's access to land. However, the earlier study from Madhubani and Saptari showed that land ownership has not changed for the majority of households since the migration of a family member (Sugden et al., 2015). Several households even sold land to fund migration in the first place and settle debts, creating further hardship for women and their families left behind. However, some small land owners with less than 0.5 ha and a few tenants bought additional land, and 1/3 of these were women headed households. This indicates that some women have secured access to more land since their husbands' migration, although it is not clear whether the land is purchased in the women's name and hence women benefit from the legal rights. However, this land was purchased by many households with loans and not remittances, which shows that land purchases are linked to additional debts and that these investments are coping rather than accumulation strategy (Sugden et al. 2015). This may add further anxiety to those left behind.

What was also clear was that women-headed households had purchased or sold land more than male-headed households (cf. Figure 4), although these might have been financed through further loans rather than remittances. This may indicate that they depend more on land due to the irregular of remittance flows, but are also more vulnerable to short term economic stresses such as droughts, causing sales (Sugden et al. 2014). Tenancy among women-headed households increased more than among men-headed households (Sugden et al., 2015). In search of food security while husbands are away, some women reportedly take land on lease.

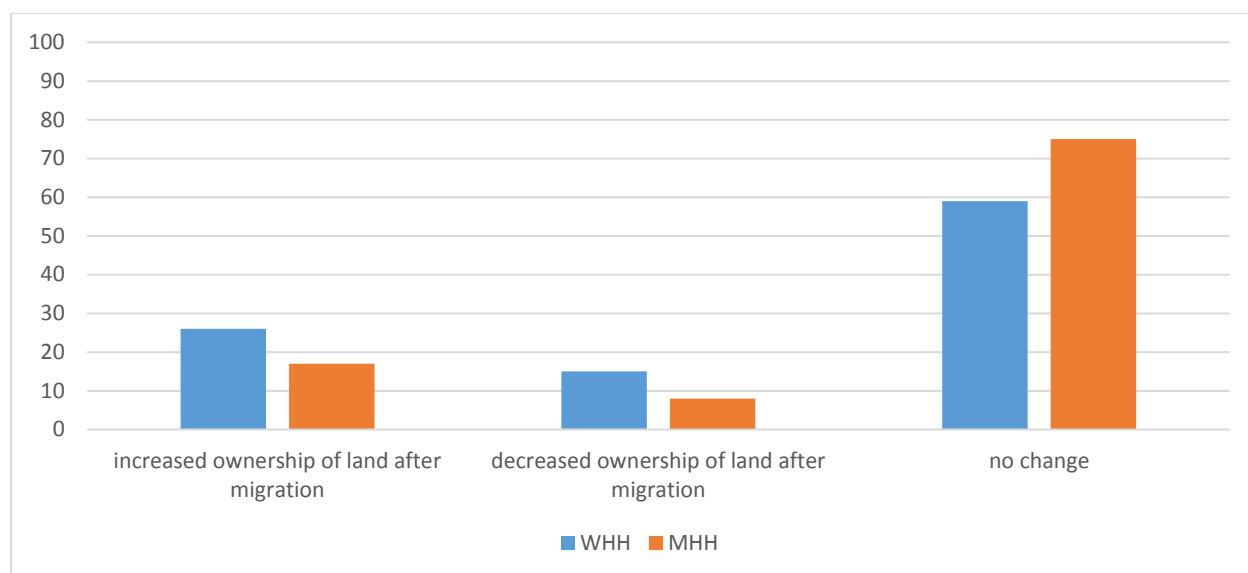


Figure 4: Households (in %) which had purchased or bought land after migration of family member according to gender of household head in Saptari and Dhanusha, Nepal Terai (Sugden et al. 2015)

The second issue relates to the gender of the land title holders. In all sites, land is usually owned in the name of the husband or father-in-law. Different perspectives on the efficiency, empowerment, and welfare arguments for women as landholders are hotly debated between Agarwal (2003) and Jackson (2003). It is clear that there are specific constraints for women not holding the land title, such as the inability to access credit, agricultural inputs and extension services (Rao, 2006, p. 184). The hypothesis that women's ownership of land improves bargaining power and the decision-making capacity within the household is contrasted by Jackson's perspective that claiming or redistributing family land may destabilize family relations, as male family members "will be losers, and contestation of change will be likely" (Jackson, 2003, p. 465). Furthermore, land rights in themselves will not transform women's lives, as they need to be effective, and not only nominal. Furthermore, the ownership of land is of strategic importance, but needs to be supported through access to credit, inputs, technical information, infrastructure etc. as well as shifts in power balances within the household, the community and the market and at some areas at the state level (Agarwal, 2003, p. 573)<sup>2</sup>. This, of course, will vary with the size of land, and women with husbands owning bigger plots are economically better off than women owning a small plot in their name.

During fieldwork, the only situation women said they will face a problem with not owning the land was in a group meeting in Baghwatipur. It was a particular worry of one woman who said that she depends on the mercy of her sons and other male family members when her husband dies, as then the land will be divided amongst the sons and also other male family members could take advantage and claim land ownership (B\_FGD9). She already approached her male family members to give her the land, but they did not agree. But, as long as their husbands live, "no one will ask for anything" (B\_FGD9). This demonstrates the dependence of women on their husbands, and after their deaths, on other male family members, and thus illustrates their limited long-term security to benefit from the work they invest in the land. In this

<sup>2</sup> For further details, read Agarwal's monography (Agarwal, 1994)

case, owning the land would have given the woman the independence to work on the field for all her life, which seemed very relevant to her.

Otherwise, demands for owning land were usually not voiced by women in the sites. Women noted that both the community, but also women themselves do not raise the question or criticize whether land should be in their name. One reason mentioned is that they can rely on their husbands to take care of them:

*“We do not need to raise the question of whom belongs the land, because our husbands earn money and give us clothes and food” (WB\_FGD3)*

This demonstrates that women have deeply entrenched perceptions of gendered division of labor, responsibilities, and ownership which they accept as appropriate. Particularly in the Bihar sites, women showed a low critical awareness about their own labor contribution, as they have little or no returns in money as they only cultivate for subsistence farming, while they mostly depend on the remittances of their husbands' salary.<sup>3</sup> In Dholaguri, West Bengal, women do not value their own agricultural labor in economic terms, as usually their husbands and not they themselves receive money for productive work. A woman's statement shows that they do not perceive themselves as having any entitlements at all: “we work and take food only” (WB\_FGD 3). This results in a low self-esteem, with no demands for owning land, because husbands are perceived as land owners and managers, while women contribute labor and are benefitting from income. This divide between women recognizing the value of land, but not valuing their own input and hence claiming the ownership, may serve as an explanation that the widespread structural and political neglect of female farmers hinders agricultural development.

Whether owned land is more productively used than tenant land has not been proven, but the willingness to invest more in own land is very likely. In Dholaguri, both male and female tenants mentioned that they would like to rent land longer than only for the potato season; however, landlords would not let them use the land for a longer period so they could diversify the crops. The reason why big farmers do not rent out land for a longer period than one season is the West Bengal land reform and tenancy tribunal act 1977, which was published in 1997 and came into effect from August 1998. The established rule is that those who cultivate land over a period of three years also own the land. As big farmers are scared to lose their land, they would not rent it out longer than one potato season and there is very little interest in investing in the land through fertilizer, or other infrastructure. Therefore, for the rest of the year, tenants, landless and marginal farmers work as laborers for paddy plantation or on jute fields. Farmers also get involved in fishery, grow mushrooms, poultry and vegetables. Most households own a cow, and a few chicken.

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<sup>3</sup> In fact, the relationship of several women to their migrated husbands with whom they never spent more time than a month per year seemed to be primarily economically. This is, however, a very strong bond as women are highly dependent on receiving remittances.



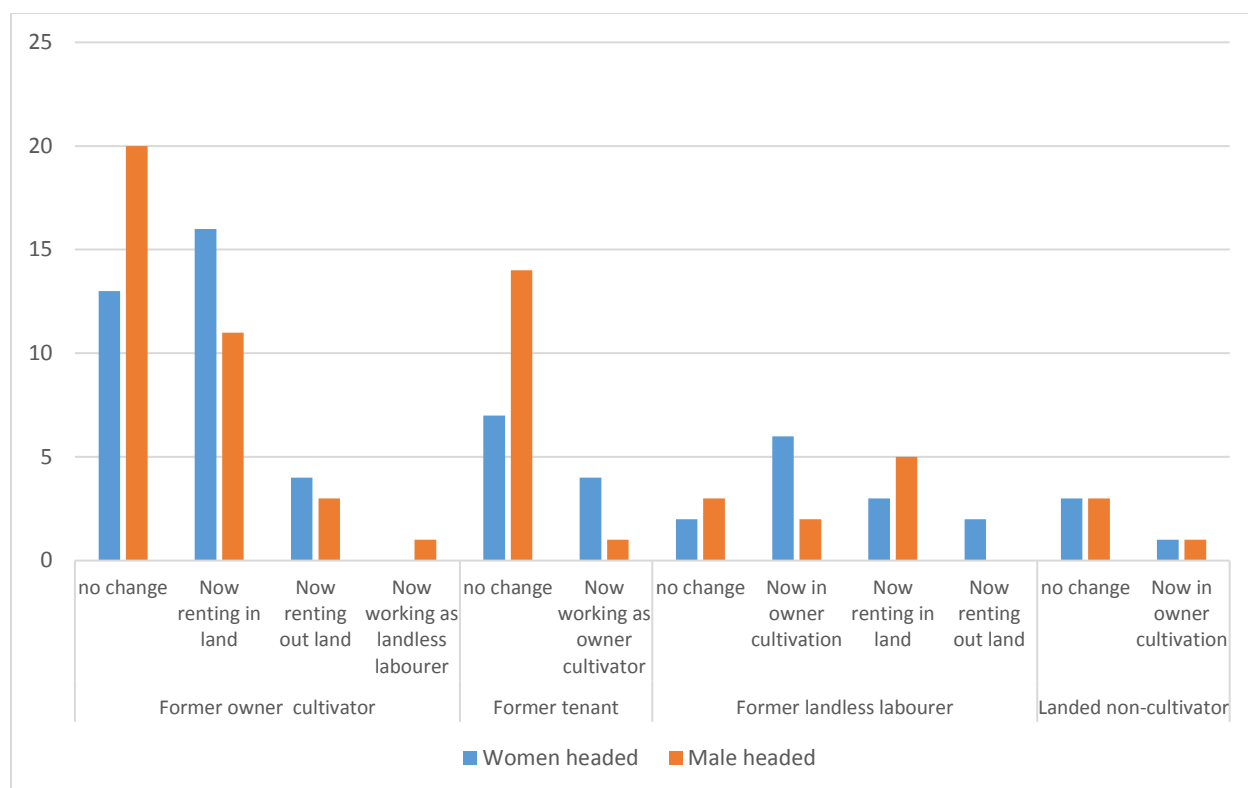


Figure 5: Change in land tenure after migration of family member (no of cases) in Saptari and Dhanusha, Nepal Terai (Sugden et al. 2015)

The size of land owned influences the relationship farmers have with each other. Reasons mentioned are that workload and income vary greatly, and that they belong to different political parties. The unequal distribution of government subsidies and development work within the village is due to landowners that is “rich leaders claiming and receiving help from the government” (WB\_FGD 3), whereas the poor do not have the capacities to approach the government.

#### Gendered access to finance to invest in agriculture

After a family members’ out-migration, some households could accumulate cash or assets, particularly those with more land in the first place. However, investments in agricultural inputs are below investments in food and debt servicing. The number of respondents who had invested in agricultural machinery or pump sets was less than 10% (Sugden et al., 2015). This indicates that remittances of most families do not feed into agricultural investments which could help families to sustain themselves or even accumulate capital. Instead, migration is, especially for those with limited land, a coping strategy for which loans are taken which will pay off after years. A ward head in Khoksar Parbaha described migration as “the last option...buying rice is easier than growing rice” (T\_I4). Migration has not significantly changed households’ access to productive resources or patterns of investment on land, as those with increased investment or access to assets are balanced out by a similar number for whom it has declined (Sugden et al., 2015). The rise of annual household income households is higher for those with land ownership of 0.5 ha and with a male head (Sugden et al., 2015). Therefore, economically better off households benefit more from migration, as they presumably need less loans and are better educated to receive higher off-farm wages.

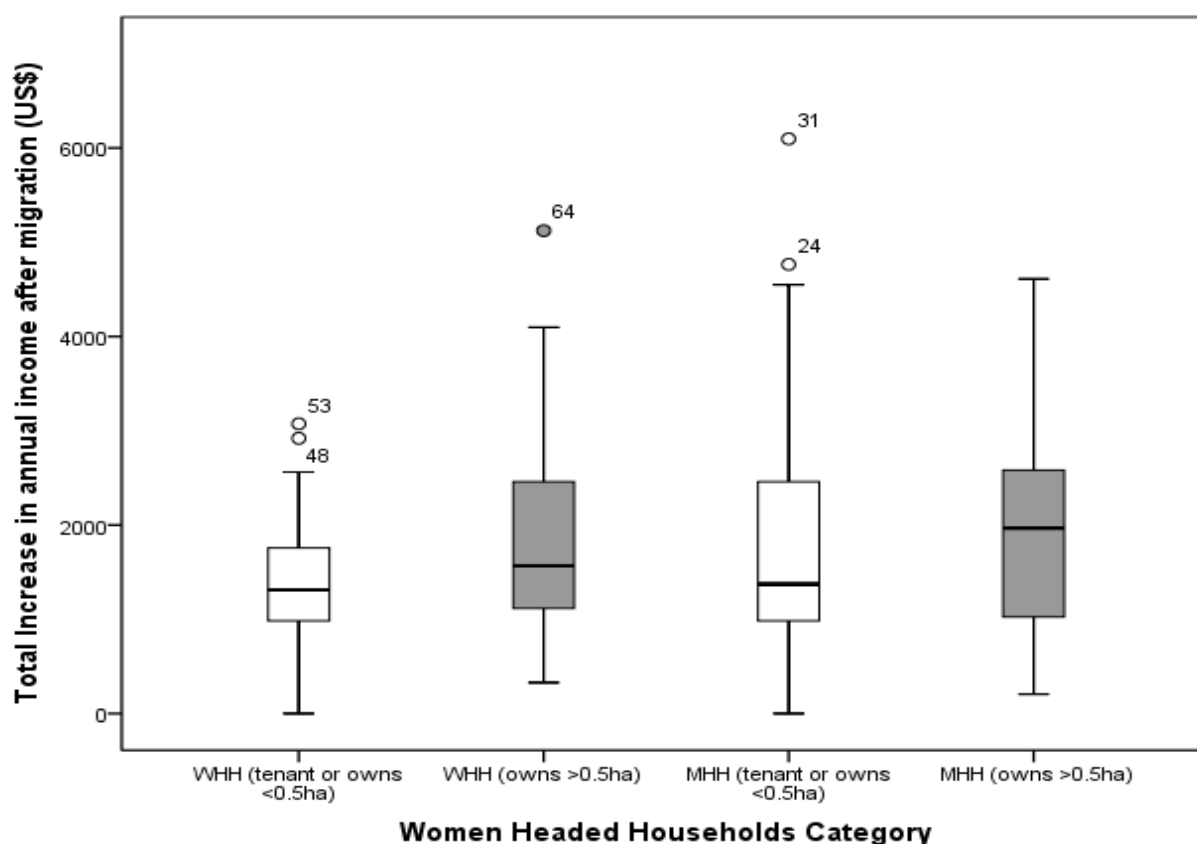


Figure 6: Estimated increase in annual income between male and women headed households from different land ownership categories after migration of family member in Saptari and Dhanusha, Nepal Terai (Sugden et al. 2014)

It is important to also understand women's control over and access to finance within the household. While in the Bihar and Terai sites, women were highly dependent on older male family members or neighbors to receive remittances, in Dholaguri, West Bengal, some women went to the bank themselves. In the Bangladesh sites, mobile banking services allow women to easily access money themselves.

Unless in-laws or older sons are in the house to keep the money, most women with out-migrated husbands now keep the money themselves. Some women mentioned the distribution if in-laws control money expenses, but did not question their in-laws directly due to respect. One woman was explaining the effect that children perceive their grandparents as the greater authority, as they and not their mother handle the money and need to be approached for money. One mother-in-law clarified her position to her daughter-in-law: "If her husband is not there, I am her husband" (T\_I9, mother-in-law). This demonstrates how gender-age related hierarchies are related to the keeping of money, and lived and experienced from an early age.

Unlike men who gamble and spend money more easily, women are perceived as being able to save money. However, most and major expenses are done by husbands, or with their husbands' agreements via mobile phones. This creates new communication patterns between husbands and wives, which also generates opportunities for husbands and wives to understand change in each other's capacities and limitations. As

one women stated, “Via phone my husband suggests how to spend money, but I am free to spend, as I know the needs better, and he agrees, as I am here on the ground” (T\_I1). Another male participant in a focus group discussion said: “The wife is our ‘ministry’ – she gives money to the husband, and the husband withdraws money from her” (T\_FGD1, male). He said this with a certain pride, which indicates that increasing control of women on money matters was welcomed and even encouraged by husbands.

If women receive a higher amount of remittances, they can reduce their work burden by hiring laborers (T\_FGD1), this is particularly true for young daughter-in-laws who are supposed to stay inside and not work in the field, unless it is economically necessary.

Despite of the same labor, wage differences according to age persist. In Koiladi, Terai, the female wage is 150 NPR, while the male’s is 300 NPR; this wage persists despite increasing male out-migration. The reason perceived by landlords is that men work harder. In addition, there is little value attached to reproductive tasks as these time intense tasks do not translate into monetary outcomes.

In India, agricultural wage laborers work for landowners in the field from 9 am to 5 pm for 150 INR a day. These are mostly women, as men leave the village to earn more money. The Mahatma Gandhi National Rural Employment Guarantee Act, NREGA, provides 100 days of wage employment for people in rural areas to do unskilled manual work, for example building new roads or government houses. These days are claimed during off-season from the Gram Panchayat, however, they could only provide work up to 60 days (GP Interview). Concerning this scheme, farmers in West Bengal reported long delays of payments.

#### Gendered access to quality education and agricultural training

Despite a continuing son preference, particularly under economic scarce conditions, the perceived value of education for women is changing. There is a raising awareness of the need for education in general and women in particular, if they are to engage in economic activities and farm management, as they need skills such as basic mathematics, and agricultural knowledge. Especially the ability to count money and to sign were mentioned as important skills which many women lack and therefore hinder to engage in agriculture. While the older generation expected women to be less educated than men, one women indicated an intergenerational shift of these perceptions:

*“My husband was not supportive because no one was educated in his family, but after the death of my mother-in-law, and with older children, he supported me”  
(T\_I8)*

This indicates that the younger generation, whether male or female, are attaching greater value for women to receiving education. Nevertheless, son preference is obvious in the family’s allocation of investments for education. Both in the Terai and Bihar sites, families who could afford one child in school would prefer the son, and once enough money is available for all children, sons will sometimes be placed in private boarding school, while girls are to attend public schools. However, in Dholaguri, West Bengal, the male teacher of the Shishu Shiksha Kendra (SSK) primary school (class I – V) stated equal enrolment of boys and girls.

One women acknowledged that she perceived a change in the value attached to education: “Being a farmer seemed better than education, but now the perception of society changes: Education is better than farming” (B\_I1, I4). This, however, begs the question whether the contradiction between education and farming could be overcome through integrating farming into education in a way that it becomes attractive for students to remain or return to farming. Particular challenges persist for first generation learners, as parents complained about teacher absenteeism and insufficient teaching quality, as well as limited student engagement in studying. One women in Bhagwatipur, Bihar, illiterate herself, stated that she cannot convince her son of the value to study: “When I tell my son to study, he sleeps” (B\_I2)

In all sites, women and men are generally lowly educated, whereas sons are more likely to attend school. Many women have received no or only a few years of school education. Therefore, they are illiterate which leads to a set of disadvantages in agriculture but also in their personal life. With a lack of knowledge and information, it is difficult to influence decision-making processes at household and community levels and therefore claim their own interests. According to women in an FGD in Dholaguri, they can take less accountability in their work. As soon as men interfere, they have to admit they are right, whether or not this is the case, because they are meant to be educated. This indicates a stronger bargaining power for men than women.

In Dholaguri, a local agricultural university offers training courses, in which, however, only very few people can participate. One female participant is a young widow whose 15 year older husband had already died. She highly gained from these trainings, as she learned how to grow mushrooms and ajola (fish food), which she still continues to do. She said that “women do not understand what they can do, what they should do, they are only busy with themselves and work” (WB\_I11). She perceives women subordinated to men and is, being a widow, feels “free”. She would like to do distance education, however, this costs 6000-7000 INR which she cannot afford. Courses from the government are very rare and only five people from Dholaguri were selected to participate so far. The problem of the courses is that seasonally specific cultivation trainings come in the wrong seasons, because courses are initiated from Dardhaman in the south of West Bengal, where they have different seasons and the agricultural learning contents are thus not applicable to the north of West Bengal. Instead of receiving trainings, farmers consult shopkeepers on which fertilizers and pesticides to buy and use.

Some education may enable girls to get married to land-owning men (WB\_I5). One girl said that she feels that “girls are now more interested and engaged in education than boys, because boys can always find manual labor and go out and earn” (WB\_I5). 15 school children responded to the question whether they want to become farmers or fishers a clear “no”, because it is hard work and there is “sometimes profit, sometimes loss”. Instead, they want to become teachers, doctors, carpenters, or work for the police.

Early marriage, starting at the age of 11, is still a problem in the sites. Particularly girls are prevented from secondary and higher education. Especially households where the father has died, or those which face other financial burdens, prefer to marry their daughters at a young age as they will receive richer husbands, where women can only do domestic work and do not have to work in the field. This may result that they cannot finish their education due to domestic tasks in the house of the family of their in-laws.

The teachers in all sites were from outside the village which can have the positive effect that he cannot be easily influenced and might be objective, however, it may also mean that he lacks an understanding of the village children’s needs, particularly to agricultural knowledge. In Dholaguri, the teacher admitted to be looking for a better job in a company, which indicates that there is no strong continuity and ownership

for this position. A committed teacher from the village may encourage children to see the opportunities in agriculture and promote local agricultural knowledge.

The government of West Bengal has established the Kanya Shri scheme to prevent child marriage and child trafficking. From the age of 13 to 17, every unmarried girl enrolled in school receives 1000 INR per year. When girls turn 18 and remain unmarried, they receive once a sum of 25,000 INR to pursue higher education, a vocational or sports course in a government affiliated institute. The awareness of the scheme was high in the village, and girls automatically get enrolled in their school, however, a mother admitted that she might need to take their daughters out of school to help on the fields which will not give her access to this scheme.

### 3. Agency

Women's agency, that is, the ability to define one's goals and act upon them (Kabeer, 1999) is strongly influenced by the gendered division of labor and the associated spaces to act and communicate. Women used to be attributed to the reproductive and domestic space, and men to the productive space and the outside world. Male out-migration forces women to enter the productive space and take over tasks which were primarily considered as "male", such as irrigating and dealing with middlemen (Figure 3). This also changes women's mobility and purdah restrictions. Culturally, women were defined to be in the private sphere and not allowed to enter public places. Since irrigating, going to the market etc. was perceived as a taboo, particularly young women circumvent these by transferring tasks to other family members such as their mother-in-laws and children or male neighbors, which reinforces women's dependence on others. Women who challenge the gendered division of labor, who step beyond their restricted mobility patterns, who negotiate with men etc. are exposed to societal contempt. If women challenge their restricted mobility, is, however, not experienced without hassle as women face gossip and insults, and also feel initially shy to enter this unknown space.

### Workload and migration

Women have high domestic workloads in addition to hard agricultural labor, especially if the families are poor and when husbands are absent. Although women have a high contribution to agricultural labor on their own fields, their contribution remains economically invisible, as they mostly do not receive money for their work. Their work includes planting, weeding, harvesting, and storing seeds, milking and feeding of the livestock, as well as domestic work like cleaning, cooking, washing and childcare. Men's work is land preparation, irrigation, buying and using fertilizers and pesticides and transporting the harvest and selling it to middle men. Women's high load of domestic work and childcare, but also their agricultural work remains unpaid, while men collect the cash for the harvest.

Women perceive their workload similar to those of their husbands both abroad and if they are at home. This may be as their husbands have a higher responsibility for earning money. However, it was mentioned that men wake up around 6.30, one and a half hour after women. When women are asked how much they work, all answered from 5 am to 10 pm. This indicated that they do perceive their tasks as work, although they do not earn in most cases. They do have the opportunity to short cut cooking, if they feel tired.

The day spent by women can be split into three parts: In the morning, women wake up at 5 am to clean the house, make tea, prepare breakfast and lunch, look after livestock (cow and maybe goat), take their baths and do pooja (ritual work). Wage laborers work from 9 am to 5pm. At 2 pm they have a break to go home for lunch for one hour, but in fact only take 5-10 minutes rest after lunch as they have to take care of the house or their children. After coming home at 5 pm they take care of livestock again and do ritual work. Sometimes they find time to gossip with neighbors after 5 pm. They sleep at 10pm, sometimes 11 pm, and if they have a TV, they watch in the evening.

Unmarried women and widows seem to have more time than married women (WB\_I11). One unmarried women living with her brothers also stated that she has less work than her sisters in-law (WB\_I12). Because of her brothers owning 35 bighas of land, she feels independent.

*Table 5: Whether high workload is listed as a challenge of household/agricultural work in context of migration in Dhanusha and Saptari (Sugden et al. 2015)*

Household head and wealth categorization	High workload key challenge of household/reproductive work	High workload key challenge of agricultural work	Total no of respondents
Women headed household (tenant or owning <0.5ha)	60	70	43
Women headed household (owning >0.5ha)	54	54	11
Male headed household (tenant or owning <0.5ha)	54	61	28
Male headed household (owning >0.5ha)	36	32	22

Elder women work as long as they are physically able to. For example, we observed old woman cleaning rice in the yard or watching their grandchildren while the parents work in the fields. One 80 year old women said that agriculture was even harder work in earlier times as they had to flatten rice by hand, which is now done by a husking mill (WB\_I4). Before, it was more critical to earn, as they were starving (WB\_I6). This highlights that technologies can reduce drudgery in the context of rising workloads induced through migration.

An interesting incident happened during a focus group discussion with women: when one husband called his wife to milk the cows, the wife stood up, however, the group of women discussed and pressured her to stay and answered him to wait for ten more minutes. This example shows that women collectively may feel more confident to act for their own interests, which may clash with the expectations of their husbands.

### Decision-making and migration at the household level

In decision-making at the household level, women across all sites said to give preference to husbands' decisions as they are exposed to the outside world. Both women and men strongly perceived earning, spending, caring and deciding as a collective family endeavor. After husband's out-migration, some women's decisions on household issues increases due to their growing education, experience and exposure women face. Interestingly, women were not complaining about their husbands who dominate in decision-making, but rather their in-laws. Once husbands migrate, male relatives (an elder son, father-in-law, brother-in-law) or even the mother-in-law take control over income, expenditures, and major

agricultural decisions. This indicates that the role of the head of the household remains male, or the mother-in-law. A young widow whose elder husband died was an exception- she returned to her mother's home and felt free to decide on all of her own and her households' matter. She visited agricultural trainings which also facilitated her ability of her agency. Women with migrated husbands who are sharing the household with in-laws continue to be highly dependent on their husbands. For example, women have to ask their husbands to address certain topics like visiting the parental home, receiving money and the division of labor to the in-laws via phone. When women are staying alone, they can take a great amount of decisions themselves, and inform, and not ask their husbands on their decisions. The only request they have to their husbands is to send remittances. However, greater decision-making power can also become a burden, particularly to those women with limited financial resources to invest in labor.

In West Bengal, decision-making power of women is higher than in Bihar and the Terai sites. Women being asked who does make the decisions at the household level, answered, that both husband and wife take decisions, whereas "the wife does the thinking, it comes from her" (WB\_FGD 3). Women stated repetitively that they make decisions jointly with their husbands, so it is a "win-win" situation (WB\_I1). Interestingly, being in charge of keeping the money, women feel to be involved in decisions, whereas in fact they might not. However, one woman stated: "Without his permission, I cannot purchase" (WB\_I7). In another case, the husband kept the money: "if he earns more, he will give. If there is less, he will keep it. We do not have enough income, so I can have money" (WB\_I5). She looks after the cow and field, while he earns from the fish.

While in West Bengal, women spoke more about quarrels with their husbands and fathers, women in Bihar seemed to be more accepting in their dependence on their male family members, for example, in receiving money through father- or brother-in-law or to access irrigation with the help of male family members. However, a woman perceived intergenerational changes: "My parents and even more my grandparents were less outspoken than me" (T\_I6). In a focus group in Bihar, men stated positively that it is the in-laws responsibility "to look after their wives comfort while they are gone" (B\_FGD8). This also relates to protective aspects, such as engaging male family members to arrange irrigation, so that the women are not "troubled" with having to run around after pump owners, as this is perceived as the "task of the stronger gender" (B\_FGD8). A Brahmin women stated that "only lower caste women are allowed to go out after marriage" (B\_I11), while they have to pay laborers to do the work, even if they cannot afford so. As soon as female Brahmins become mother-in-laws of their sons, they have less restrictions on their mobility and can, for example, supervise laborers in the field.

Women are generally consulting with their husband, or, if they are around, their parents. One widow lost her husband when her eldest son was 12. She worked hard on her 2 bighas of land and also worked as wage laborer. When asked about community support, she answered: "Who will help?" (WB\_I11). Since then, her son took over the household decisions, especially regarding income. In the interview, she hardly spoke but looked at her son expecting him to answer. However, one 80-year-old woman said she was always dependent on her husband as she did not know prices, whereas her 27-year-old granddaughter, a widow, has more opportunities for decision-making herself (WB\_I4).



### *Intergenerational shifts of gender relations*

As soon as their children are married and wives also become mother-in-laws, they gain respect in their role, which is also linked to greater mobility and greater decision-making power within the family. Several families were observed in which the daughter-in-laws felt their mother-in-laws contribute to limiting her agency by controlling money, burdening them with work and restricting their mobility. Young women stated that most family quarrels are with in-laws: “The roots of quarrel is money, if in-laws are not working, and unequal distribution of household work” (T\_I8). Another young wife perceived her mother-in-law even “equal to men” (BD\_I15), as she is educated, intelligent, moves a lot and able to bargain. Others stated to feel neglected by their husbands for their mothers, brothers, or sisters. The amount of dowry is also closely linked to the respect, and hence, decision-making power of a young wife.

The mobility of daughters and daughter-in-laws is particularly restricted in Koiladi in the Terai, as the community builds pressure on young women through the story of a rich Rajput’s daughter-in-law who fled with a Muslim of the community to India. She was, however, later found and returned to their husband to get children. Hence young women are not allowed for the fear of having affairs with others from lower castes. Even children are not allowed to play with others to keep caste purity (T\_I6).

This demonstrates that women’s ability to make decisions on her own account depends on a number of factors which influence her standing within the family, as well as her age and position in the household, as well as the household structure.

### *Decision-making and migration at the village level*

At the village level, women find it difficult to group with each other as “everyone has a different mindset” (CB\_FGD3). Particularly those who own land dominate tenants and wage laborers, and one women in Bihar explains:

*“There is no unity amongst women in the village, there are disparities for rich and poor, caste, religion, so I have friends in my own caste only” (B\_I8)*

Reasons mentioned are that workload and income vary greatly, and that they belong to different political parties, resulting in some receiving BPL cards, whereas others did not. The unequal distribution of government subsidies and development work within the village is due to “rich leaders claiming and receiving help from the government” (WB\_FGD 3), whereas the poor do not have the capacities to approach the government. Reasons for the missing community feeling in the village are also that there have been no group-based activities within the village. However, neighborhood support amongst neighbors with similar socio-economic backgrounds seems to be in place, as several women stated their neighbors would help them if their husbands have migrated. Sometimes women meet to gossip in the evening, but mostly they are busy with their work and do not find time to spend in the community.

When a widow and a wife of bigger land-owning farmer were asked whether they know about community issues, they answer no, as “everyone has different problems” (WB\_I2). The daughter of a bigger land-owning farmer stated not to spend a lot of time with other women in the community and openly admitted that they would not like to get involved with them (WB\_I12), without being able to explain this, except that there is no need. This demonstrates culturally entrenched reservations towards other women in the village.

In Dholaguri, West Bengal, there are no facilities (space, money, seeds, land, training), which hinder self-help group meetings to become institutionalized. Nowadays, “women do not come together” (WB\_I7). Women, whose husbands own more than around 10 bighas land said they do not see any need to join a SHG as they already have economic security. This may indicate that those with knowledge and access to power and resources through economically better off husbands would not engage with those worse off. One women of a land-owning farmer stated that she is “a woman, it is my work burden and it is not necessary to join the group” (WB\_I9). This indicates that women internalize the heavy expectations towards their workload and also may not see the positive effects of forming community groups.

An interesting contrast to these perceptions provides the village of Bhagwatipur in Bihar, in which the NGO has been active with social mobilization through self-help groups for nearly 20 years. In contrast to the statements in West Bengal, the women described to have the “we” feeling and that they can rely on their neighbors in cases of emergency.

At the community level in Dholaguri, collective decision-making was stated as “not possible due to powerful male Panchayat leaders”. Farmers indicated that there is no proper development, because these “leaders only follow their own interests” (WB\_FGD 4) and do not improve communities. If there is a reason to go to the Panchayat, for example for the 100 day work scheme, the husband would mostly go (WB\_I6). Women approaching the Panchayat do not get heard: “If women ask Panchayat leaders, she is wrong: Why do you talk? Other women do not talk!” It is perceived to be the men’s job to decide. This indicates that there is a great need to unite the women voices in the village and approach the Panchayat as a group. It was also stated that especially “poor people don’t voice and come upfront” (WB\_I8).

#### *Self-help groups and farmers’ clubs*

Although in all sites more or less active Mahila (women’s) groups exist, they do not bring problems to the village development committees. Although men migrate and women take over responsibility for agriculture within the household, women are not included in local decision-making bodies. Women face exclusion of decision-making due to their gender, and the argument that it is the male’s job to do. In Koiladi in the Terai, women are not allowed to speak in front of the informal village heads who are a group of elderly men, but their husbands or fathers have to articulate their request before them. If women speak, they get beaten. Women mentioned interest in participating in meetings, but only if there are other women joining. They feel shy in participating as they do not have information on government programs. The focus on participation, but not the quality of participation, led in Baghwatipur, Bihar, to the following situation:

*“Ward members are 80% female, they are supposed to be present, but their husbands attend meetings when they don’t have to sign... They are instrumentalized by husbands to gain more influence. Some women shed bad light on women in general as people think they are useless” (B\_FGD2, men)*

There are around 5 women Self-help Groups (SHGs) in Dholaguri, West Bengal. Currently, their only task is to cook for the primary school in turns. Four women form a group and cook daily for one week per month, receiving 300 INR. The major interest of SHGs is based on financial, and not social support, which, according to the experience of Mitali Ghosh (CDHI), makes them less efficient, more prone to quarrels and they fail the primary objective of SHGs of strong unity and cohesion for common action. The SHGs in

Dholaguri used to give out loans, e.g. 10,000 INR for potato cultivation, but as some women did not pay back their loans, and there have been quarrels. In another group have been also issues with a cashier. Further, there is little reliability whether women show up for SHG meetings, which also led to fragile groups.

Existing SHGs have not received support from the government or elsewhere. There seems to be a strong lack of one clear and critical voice, which could pressurize and state demands to the government. The young leader of the SHG (27 years old) in Matsojibipara (the fishery community next to the river) seemed to be not a very engaged, strong and ambitious leader, but was elected, as she was the one with the highest level of education (she finished class 8).

#### 4. Achievements

In general, economic and social perspectives turn away from farming. “Why worry about farming? You can buy packaged rice, no more physical labor” (T\_FGD1, men). Being a farmer is equalized with being poor and having limited capacities. “My daughter is not married to a farmer because of financial insecurities. Only poor have no choice and have to get married to farmer” (B\_I3, male landowner of 12 acre).

When women were asked about their aspirations, they primarily focused on the next generation, their children. They wish for them a better life, and to move out of agriculture. Women mentioned first of all enough to eat, then the education for children, as they should read and write, and that they find work outside of unproductive agriculture:

*“I want my children to be well educated, so many problems and poverty come to an end and life becomes easier. I do not want my children to be farmers, but to go to the city, as it is not a profitable job. They cannot live happily. I survive, but I want my children to become more content” (B\_I2)*

If particularly asked about aspirations for themselves and their households, they mentioned they would like to be able to buy land to build a house without rain leakage and a toilet (T\_I5), to have a TV as exposure to the outside world (WB\_I1), and to be able to sew and tailor to decrease their dependence from their husbands (T\_FGD3). Aspirations for agriculture are the access to pesticides (T\_I1), improved seeds to grow bigger vegetables, training on pesticides and plant diseases, as well as access to irrigation facilities (T\_FGD2). In Koiladi, women said they would like to have cycles, so they can learn to ride and go to the market (T\_FGD3).

Besides financial security, bearing a son means social recognition of a woman. One mother of six daughters stated to keep having babies until she gives birth to a son, because “If women cannot bear a son, they cannot bear children” (T\_I10). This illustrates the pressure of receiving and raising sons, as this leads to higher respect and most likely stronger agency within the household and community.

## 7. Discussion

The findings above highlight the changing responsibilities women are facing in the context of the male out-migration. Alongside their traditional tasks in the reproductive space, they increasingly have to access irrigation facilities, markets, deal with money, obtain agricultural inputs, and bargain with male counterparts. As they enter male's space, women become critically aware of how gendered norms constrain their ability to access water. Additionally, women become aware of their own limitations that is their limited skills and knowledge to bargain with men. This leads to the question how women can become empowered and engage effectively in decision-making to influence their own well-being outcomes.

The interviews and observations in the different sites highlighted the changes male out-migration has triggered. The feminization of agriculture is not only an increase in women-headed household, but also led women to critically realize the existing gendered division of labor, the restrictions they are facing, as well as they became aware of their agency, but also their limitations due to gender norms. Due to continuing gendered access to water and other agricultural resources, they feel as "substitute farmer" or "second choice farmer", while men are perceived as the real farmer. This indicates a lacking self-confidence of female farmers which may inhibit them in their agency. However, if their critical awareness of the contradictions of their structural constraints and their own abilities is viewed as a first step in the process of liberalization of oppression, as Freire (1996) describes, collective action has to follow to challenge existing power relations.

Women's existing critical awareness of the gendered division of labor and linked restricted mobility and control over agricultural inputs needs to transfer into greater self-esteem, which is also linked to social recognition. Increased knowledge and skills, but also institutionalized groups in which women can collectively exchange and demand their rights, increase their bargaining power, and thus create more opportunities to choose from and lead to greater empowerment. This will presumably improve female farmer's perception as substitute or second choice farmers, and also lead to a restructuring of decision-making processes on water access and other agricultural inputs at both the household and the community level.

The LWR-project may put a strong emphasis on promoting gender-specific skills and knowledge. Within a highly patriarchal context, the founding of women groups can create a space in which women can speak up, discuss, negotiate, share their knowledge and create support systems for each other. In mixed-gender groups, women and men will not be equal partners, and facilitators and trainers have to particularly to address and encourage women to express their opinions. The inclusion of elder, outspoken women in mixed-gender groups is encouraged to balance the gendered communication behavior. Alongside a greater self-esteem and social recognition as female farmers, women need institutionalized access to and control over water and land, an issue which should also be discussed in the communities. Collective women initiatives to demand better land rights and irrigation facilities may provide opportunities to diversify their options.

Pitfalls the interventions should avoid are technical interventions without a strong social mobilization component. Meetings should be hold regularly with one main facilitator to which the groups can build a relationship. Both technical and social trainings need to be conducted and repeated to ensure farmers can follow. Instead of oral lecture inputs, visual learning aids and communicative interaction with farmers should be applied. All farmers, but particularly women should be encouraged to express their views and perceived barriers to participate in decision-making processes. The project team should be humble in our

approach to farmers and remember that we have a lot to learn from them to adjust our planned interventions according to their needs. Farmers should be given space to practice the formulation of their own opinion, to learn skills from accounting to vegetable farming, and put them regularly in practice.

To ensure the *empowerment* of both female and male farmers, the meetings should not only be for organizational purposes, but also separate group trainings for social and organizational skills should be conducted. These broader trainings should promote farmers to become more empowered to work independently or within the group, e.g. through women's empowerment training, leadership training, communication skill training. In general, meetings with farmers should be very interactive and communicative. All members should be asked to give reason for their opinions. Furthermore, the facilitators should document each group meeting with the farmer group template to self-monitor change in farmers' participation and skills.

To ensure the *participation* of all farmers in the social mobilization process as preparation to take up the technological interventions, I recommend:

- To engage with each group regularly and intensively to ensure every member knows what the meetings, groups' objectives, procedures, responsibilities etc. were about.
- To ensure each member has an equal opportunity to participate in group meetings, particularly in mixed-gender and mixed-age groups (recommendation to include elder outspoken women and younger men in mixed-gender groups to overcome gendered relations).
- To conduct group activities which will convince women about the positive effects of forming community groups as they may have internalize the heavy expectations towards their workload and also may not see
- Groups should follow a decision-making process via hand sign to include all members.
- To have an open, both-way communication style with farmers, to interact with farmers, to listen to them, and not to give them lectures.
- Meeting material used for meetings should be innovative – visual aids such as posters, pictures, drawings and locally available materials should be developed and used to enhance the learning effect.

To ensure the *functioning* of each group after the project interventions fade out, I recommend:

- Each group should document their objectives, rules, roles & responsibilities as well as the proceedings of each meeting. If no one is literate in the group, family members can be considered.
- All groups should have a majority of young farmers to increase a long-term effect of the skills and knowledge acquired as well as to target potential migrants to invest in agriculture.
- To establish and document clear and explicit rules on which farmers agree to.
- To conduct group meetings in the village and in an atmosphere in which farmers are most likely to feel comfortable and establish group meetings themselves.
- group members should increasingly see the benefit to engage with each other without initiation of the LWR project team.

## 8. Annex

### Abbreviations

B	Bihar (Bhagwatipur, Mauaahi)
BD	Bangladesh (a village each in Rangpur and Thkurgaon in the North West)
FGD	Focus Group Discussion
I	Interview
NGO	Non-governmental organization
SHG	Self-help Group
T	Terai (Khoksar Parbaha, Koiladi)
WB	West Bengal (Dholaguri)



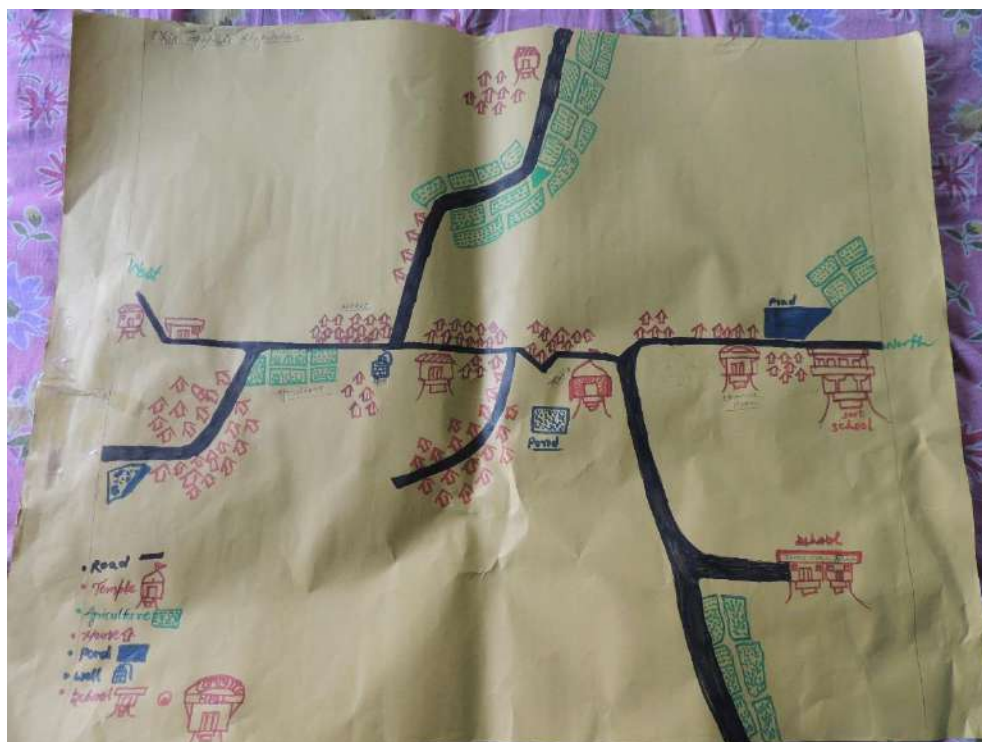


Photo 1: Village resource map of Bhagwatipur, Bihar



Photo 2: Village resource map of Mauaahi, Bihar



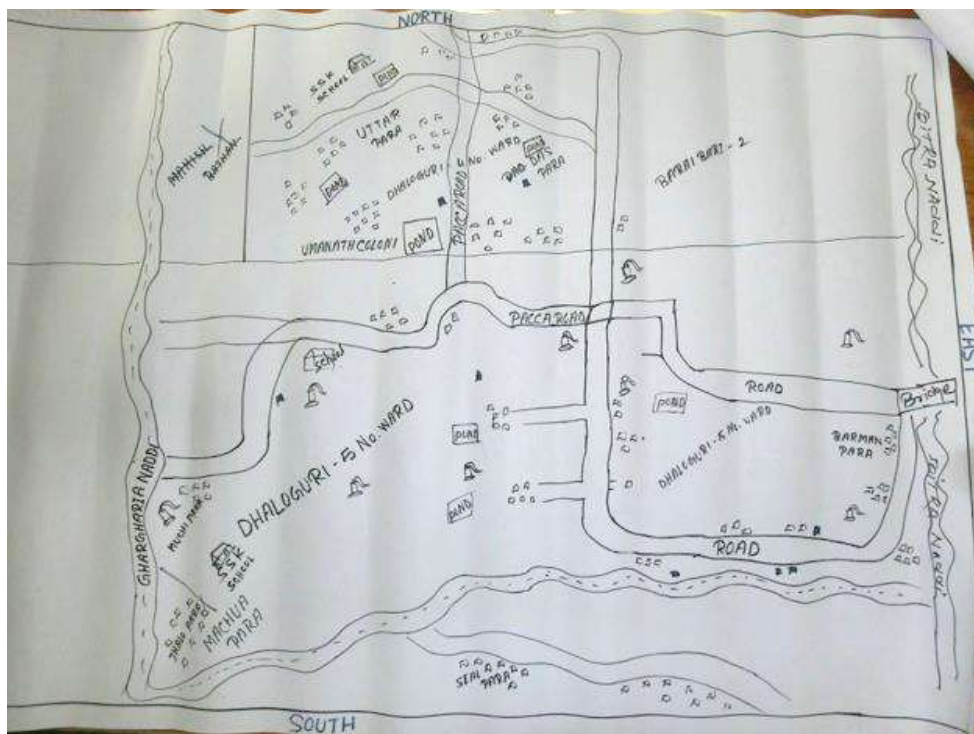


Photo 3: Village resource map of Dholaguri drawn by a farmer's son (age 13), his father and a friend on March 24th 2015. Indicated are nine shallow tube wells (only in the southern part of the village, Ward 5), three schools and communities, in which the black houses belong to those landlords owning more than 10 bighas (all information according to their knowledge)



Photo 4: Village resource map in Koiladi, Nepal Terai

### Panchayat representatives in Dholaguri, West Bengal

Both village parts have a representative member in the Ambari Gram Panchayat: Dholaguri (4) elected **Puspa Roy**, a female SC representative who is affiliated with the AITC (All India Trinamul Congress) party. She has not completed secondary school. Dholaguri (5) is represented by **Dhiren Barman** (male and non-SC) who is a member of CPI (Communist Party of India). He went to school until class 5.

The Gram Panchayat Pradhan (head) is **Sandeep Kumar Karjee** (CPI), the agricultural extension worker is **Nanda Lal Sarkar** (designation KPS) and the head of the agricultural department is ADA **Shamul Saha**, located in Cooch Behar. The GP Pradhan mentioned the following problems in agricultural development: farmers grow traditional crops, use low quality seeds, there is a lack of market infrastructure and farmers do not have purchasing capacity for innovative technologies. However, GP Pradhan was not aware that there are irrigation pumps in Dholaguri, which indicates that he probably has not visited the village before, at least for agricultural matters. He admitted that there is not sufficient agricultural support, training and supply of pumps from the government side.

### Potato cultivation in Dholaguri, West Bengal

During the bora season, marginal and landless farmers lease land for potato cultivation, for which they usually pay 1000 INR per bigha (1 bigha = ca. 120 m<sup>2</sup>) and 3-4 packets of potatoes (600-800 INR). Earlier they had to give 50% of the yielded cropping to the landowners. Besides the leasing costs, the main constraint is the high payments for renting pumps (200 INR per hour) as well as the yearly fluctuating prices per potato packet (last year they received around 200 INR, this year only around 150 INR). The Bengali newspaper Ananda Bazar compared the price of potatoes to a lottery in an article on March 22<sup>nd</sup>, 2015, as last year, farmers could earn 16,000 INR net profits per bigha, but this year they have 7,000 INR losses. The prices highly depend on the production rate of other competing states. However, farmers answered that potato is still in a period of 10 years the most profitable vegetable, and therefore they keep cultivating it.

1 bigha makes at least 70 potato packets (one packet is 50 kg of potatoes); if one packet is 200 INR, 1 bigha would make 14,000 INR gross profit per season. This gross profit is subtracted by (1) 1,800 renting costs, (2) water costs of 1,300 INR for 25-30 hours per season, (3) fertilizer and pesticides costs (4) labor costs. The net profit of one bigha of potatoes varies per season, as indicated above.

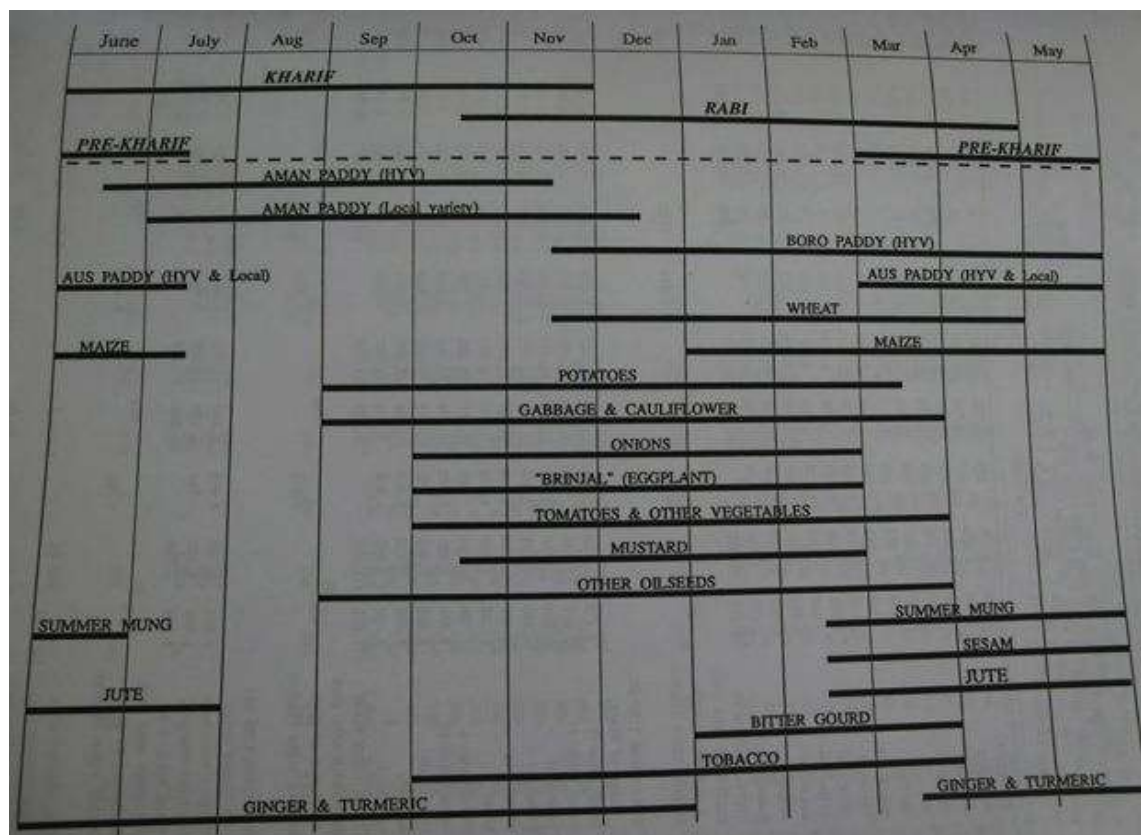


Photo 5: Cropping seasons (DOA Jalpaguri 1992)

1 kata = 720 ft <sup>2</sup>
1 bigha = 20 kata x 720 ft <sup>2</sup> = 144,000 ft <sup>2</sup>
3 bigha = 1 acre
7.5 bigha = 1 hectare

Tab. 1: Bigha and Kata conversions in West Bengal (different from Bihar and Nepal)

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