



Women's decision-making roles in vegetable production, marketing and income utilization in Nepal's hills communities

Ramesh Balayar^{*}, Robert Mazur

Department of Sociology, Iowa State University, USA

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ABSTRACT

Women in rural Nepal are increasingly interested in vegetable production and marketing (VPM) to earn income. Such innovative behavior conflicts with traditional patriarchal socio-cultural norms and is still relatively rare. Constrained by limited economic opportunities, smallholder households are increasingly under pressure to meet livelihood needs. In depth interviews, focus group discussions and field observations reveal family members, especially husbands and wives, jointly initiate VPM and collectively contest any unfavorable socio-cultural practices against women in these activities. Earning income, training, exposure visits, peer learning, women's group activities and program subsidies strongly support women's negotiations with their husbands and extended family members regarding continued and intensified VPM and expanded decision-making roles. Young and educated women more commonly contest restrictive practices and participate in all types of important decisions. Women manage household cash, have more freedom to spend income, and feel a strong sense of dignity and empowerment. However, some women still rely on their husbands for important decisions and are hesitant to travel to markets for training and exposure visits. Overall, we find clear evidence of women as active decision makers, farm managers and income earners.

1. Introduction

In many developing countries, cash crop activities are opportunities for women to participate in important decision-making roles within households and beyond, travel to markets and improve family economic wellbeing (Chant, 2016; Hill & Vigneri, 2011). Women involved in income-generating programs more commonly have fuller decision-making roles in household and communities (Baba, Zain, Idris, & Naseer Sanni, 2015; Doss & Meinzen-Dick, 2015). Income controlled and managed by women is almost always devoted to household needs, children's schooling, health and savings (Chant, 2016; Dioula, Deret, Morel, & Kiaya, 2013). Investments to increase opportunities for women can improve their welfare and benefit the next generation (Doss, 2018, p. 36).

Women's participation in cash crop production and marketing in developing countries remains very low overall (Hudu, 2017; Quaye, Dowuona, Okai, & Dziedzoave, 2016). Scholars have identified key issues that hinder women's active engagement in these endeavors. First, there are widespread misperceptions that women have limited knowledge of and interest in this sector (Enete & Amusa, 2010). Second, male-

dominated power relationships embedded in patriarchal systems characterize men as breadwinners (Acosta et al., 2020; Nazneen, Hossain, & Chopra, 2019) and women as caregivers and homemakers (Quaye et al., 2016), reinforcing male control (Hudu, 2017; Oduol, Mithöfer, & Place, 2017). Third, prevailing socio-cultural norms and practices discourage women traveling to markets to sell products (Doss, 2018). Fourth, women typically lack start-up money to initiate agricultural entrepreneurship (Hill & Vigneri, 2011); discouragingly, they are generally not viewed as capable farmers, marketers and income generators (Colfer, Achdiawan, Roshetko, Mulyoutami, Yuliani, & Mulyana, 2015; Ransom & Bain, 2011). Even if women are involved in crop production and livestock rearing, men commonly control marketing and income earned (Alkire et al., 2013; Aregu, Choudhury, Rajaratnam, Locke, & McDougall, 2018). Fifth, many rural women lack access to land and new technologies, education, skills-based training, and extension services, negatively impacting their decision-making and implementation roles with cash crops (Bisseleua, Idrissou, Ogunniyi, & Atta-Krah, 2018).

Women farmers in the Global South are either portrayed as victims of long-standing social ills and discrimination or viewed as a panacea to address rural poverty (Colfer et al., 2015; Doss, Meinzen-Dick, Quisumbing, & Theis, 2017). In contrast, male farmers are often presented

^{*} Corresponding author.

E-mail addresses: rbalayar@iastate.edu (R. Balayar), rmazur@iastate.edu (R. Mazur).

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Nomenclature

ACDOA	Assistant Chief District Officer Achham
SDAOA	Senior Agriculture Development Officer Achham
SDAOD	Senior District Agriculture Officer Dadeldhura
DHOA	District Horticulture Officer Achham
DHOD	District Horticulture Officer Dadeldhura
FGDA	Focus Group Discussion Achham
FGDD	Focus Group Discussion Dadeldhura
KIUNK	Key Informant United Nations Kathmandu
H1A - H8A	Husband 1 Achham - H8 Achham
H1D - H8D	Husband 1 Dadeldhura - H8 Dadeldhura
KIFGDK	Key Informants Focus Group Discussion Kathmandu
INGOA	International Non-Governmental Organization Achham
W1A - W8A	Wife 1 Achham - W8 Achham
W1D - W8D	Wife 1 Dadeldhura - W8 Dadeldhura
WDOA	Women Development Officer Achham

as asset owners and powerholders (Colfer et al., 2015). Little attention is given to household structure which influences decision outcomes (Ambler, Doss, Kieran, & Passarelli, 2020). Understanding particular ways in which men and women blend goals and coordinate activities in agriculture production is imperative (Seymour, 2017). "It is worth investigating whether more participatory household decision-making similarly contributes to greater cooperation, as well as productive outcomes, especially in agricultural households where men and women have different roles and knowledge of the resources" (Doss & Meinzen-Dick, 2015, p. 181). Further, in-depth analysis of context-specific shared interests, and capabilities and contributions of men and women as decision-makers is essential for addressing gender-based discrimination (Colfer et al., 2015).

Several economic models of the household were developed to understand and explain individual and collective decisions for resource allocation and utilization. The unitary approach which treats the household as a single decision-making entity assumes that all members maximize resources by pooling their incomes together, and that unequal sharing of household resources reflects the will of all members. It fails to account for different interests, conflicting preferences and intra-household inequality (Alderman, Chiappori, Haddad, Hoddinott, & Kanbur, 1995; Doss & Meinzen-Dick, 2015; Folbre, 1986; Jackson, 2007). Socially constructed elements of conflict and cooperation within households determine individual roles and responsibilities, including making decisions (Sen, 1987, p. 13). However, men's and women's conflicting interests must be viewed against the background of pervasive cooperative behavior (Sen, 1987, p. 42). Relations of power between husbands and wives are never simply oppositional but simultaneously reflect varying degrees of solidarity. Therefore, "it is important to focus on the ways in which women's agency is directed less to the rejection of these institutions and more towards reforming the terms of such cooperation. This is not a separatist agenda, aimed at individual autonomy, but one focused on remarking gender relations in ways more favorable to women" (Jackson, 2007, p. 116).

Collective models acknowledge individual preferences, collective choices, and bargaining among household members (Ashraf, 2009; Hoel, 2015). They explain how household members reconcile different preferences and make collective choices to achieve shared goals (Alderman et al., 1995). These models assume that couples interact with each other regularly, are aware of household resources, their preferences, and choices and execute shared agreements (Hoel, 2015).

Doss and Meinzen-Dick (2015), however, argue that neither a unitary nor a bargaining model adequately explains when household members engage in collective action and under which circumstances they fail to do so. Presenting the 'household' as a single entity with

consistent choices or two distinct adults having their own priorities is insufficient to understand complex relationships and actions which reflect both self-interest and interests of others. Further, the household literature is inadequate for understanding complex interrelations of resource base, risk averting behavior, collective action, and cooperation across generations (Doss & Meinzen-Dick, 2015, p. 181). Folbre (1986, p.6) also suggests that household analysis should include economic risk and uncertainty. Understanding whether "mutual dependence in one area of household activity fosters cooperation in other areas" (Doss & Meinzen-Dick, 2015, p. 176) is equally essential.

Where all group members depend on a shared resource as the basis of their livelihood, incentives for cooperation are greater than where many can 'opt out' of cooperating because they have other livelihood options (Doss & Meinzen-Dick, 2015, p. 171). Additionally, changing economic opportunities and socio-cultural norms also influence decision making (Quaye et al., 2016). They may increase women's participation in income generating activities, though acceptance of women's continued involvement largely depends on their ability to generate income (Aregu et al., 2018).

Challenged with low productivity in traditional cereal-based subsistence farming, smallholders in Nepal's mid-hills are struggling to maintain their livelihoods. Recent changes in political and socio-cultural systems, emerging markets and expansion of road networks provide incentives for some farmers, especially women, to earn income through vegetable production and marketing (VPM). In the context of changing norms and evolving economic opportunities, we explore women's decision-making roles in livelihood diversification through joint VPM initiatives. We are interested in understanding the extent to which achieving those goals involves husbands and wives making joint decisions and working together which, for some, may also involve their parents. We also explore the extent to which their decisions are shaped by or challenge broader socio-cultural norms and practices. It is crucial to understand women's decision-making roles within the context of household livelihood strategies, socio-cultural norms and practices, and support systems within and beyond the community.

2. Decision-making constraints and opportunities

Rural women in developing countries practice different strategies of engaging in important household decisions with their husbands. Taking care of children and the household, cooking, and serving food and speaking affectionately at night reflect approaches to win over their husbands and expand decision making roles (Rao, 2012). Women look for opportunities to speak when their husbands are in a good mood and at leisure (Rao, 2012, p. 1042). Younger couples usually work together and husbands often support their wives' initiatives to become financially independent, but women face opposition from their mothers-in-law (Gram et al., 2018). Age, education and women's accumulated experience generally strengthen women's decision-making roles and provide them with a greater agency (Garikipati, Agier, Guérin, & Szafarz, 2017, p. 711). Children, social networking, and household-based production also contribute to women's enhanced household bargaining power and position in the community (Gram et al., 2018). Women who involve in joint household decisions and have access to productive assets are more likely to engage in cash crop activities (Doss & Meinzen-Dick, 2015, pp. 14-15).

Women's groups in communities facilitate negotiations between women and their families. Active participation in women's groups and networking helps women to engage in agricultural entrepreneurship (World Bank, 2009). Cooperatives are vital institutions for increasing smallholders' market participation (Getnet, Kefyalew, & Berhanu, 2018). These networks help moderate socio-cultural restrictions and encourage women to engage in cash crop activities (World Bank, 2009). Institutional support for women's farm-related skill development is also essential for enhancing their decision-making roles and overall empowerment (Chant, 2016; Kabeer, 2016). However, programs and

policies focused on enhancing women's decision-making roles must include men or risk adversely impacting their position in the household (Sikod, 2007). Further, ignoring socio-cultural practices and supporting women to operate independently of their husbands, extended family members and community members can harm important relationships (Doss et al., 2017).

Eliminating restrictive socio-cultural practices imposed on women in developing countries is challenging. Malhotra, Schuler, and Carol (2002) and Kabeer (1999) propose systematic and targeted interventions for institutional change in patriarchal structures whereas Batliwala (1994) emphasizes explicit targeting of ideologies that legitimize male domination. Despite a growing consensus that women's enhanced decision-making roles are important steps towards achieving empowerment, scholars' opinions differ concerning end goals. Jayachandran (2015) argues that women's ability to make decisions about important issues in everyday lives is an end goal of empowerment, but Chant (2016) recognizes women's empowerment as a process that may be achieved through mutual understanding and interdependence with immediate family members and communities.

3. Farm household decisions in Nepal

Although women in rural Nepal traditionally face socio-cultural restrictions on income generating activities and travel, they play significant roles in cereal-based subsistence farming activities and their contributions are acknowledged by their husbands and extended family members. Since major household goals include farm productivity and meeting basic needs, husbands and wives work hand-in-hand and may plausibly make decisions together. Ambler et al. (2020) assert that "... although overall concordance between spouses is relatively high in Nepal for both assets and decision making, this often comes from concordance that the wife does not own assets or make decisions" (p.28). Importantly, in households that include a woman's in-laws, elders often make most important agriculture decisions. However, couples without co-resident parents tend to have husbands who more commonly listen to their wives' proposals for generating income (Ambler et al., 2020; Gram et al., 2018). Highlighting farm ownership and livelihood strategies in Nepalese society, Reejal (1981) suggests that while husbands own property, as managers, wives exercise as much power and authority. This is analogous to the roles of shareholder and manager in a modern corporation (p.106).

Couples' joint initiatives often experience backlash from community members, especially when the husband strongly supports his wife. Hence, women do not want their husbands to be publicly perceived as weak. These interesting dynamics are well captured in Miller (1990) work. Although women in Nepali farm households may not publicly demonstrate their decision-making roles to avoid 'shaming' their husband and family, they are involved in most important decisions regarding land preparation, crop selection, planting, harvesting, etc.

Decision making often involves broader consultation and discussion with all family members, even small children, and plowmen (Miller, 1990, p. 112). When that effort is lacking, family members may silently refuse to implement expected actions. Miller (1990) further asserts that "more than the process itself, it is the cultural and social influences exerting their presence on family decision making in the village that are esoteric to the outsider, whether the outsider be from another country or from an urban area in Nepal itself" (p.121). Reejal's and Miller's studies conducted over 40 years ago in remote Nepalese villages confirm that women have always played significant roles in household agricultural activities.

Recent studies indicate that Nepalese women in the western mid-hills are increasingly involved in cash crops activities, important household decision-making roles and development programs in their communities (Spangler & Christie, 2020). These women positively influence other women's decision making, leading broader societal changes in recognizing women's vital roles in enhancing income and achieving family

wellbeing (Spangler & Christie, 2020).

4. Study context

Livelihoods of many smallholder farmers in the mid-hills of far western Nepal are based on cereal crops (rice, wheat, barley, finger millet). Despite limited knowledge and socio-cultural restrictions, some smallholder couples are attempting to diversify their livelihoods through VPM. Together with their husbands, more women are demonstrating interest in these activities. These phenomena provide a context for exploring changes in farm households' economic strategies and women's decision-making roles in commercial vegetable farming.

While 83 percent of Nepal's population lives in rural areas (Central Bureau of Statistics, 2013), only 15 percent of the country's land is arable. Two-thirds of Nepal's household livelihoods are directly dependent on farming systems, primarily rainfed, with very small land holdings (averaging 0.68 ha) (Central Bureau of Statistics, 2013). Low productivity of crops is linked to erratic rainfall, limited irrigation, erosion, and soil nutrient depletion (LI-BIRD, 2009). There is growing realization that current modes of cereal-based production systems are inadequate to feed most farming families, especially in the hills and mountains. Consequently, efforts to diversify crop systems through VPM are spreading nationally (MOALD, 2020). With most (90 percent) of Nepal's economically active population relying on informal economic activities (International Labour Organization (ILO), 2016), smallholders increasingly consider VPM as a viable livelihood option. Additionally, as billions of rupees¹ are spent importing fresh vegetables every year (Kafle, 2020), there is significant opportunity for scaling up commercial agriculture in the country.

Nepal's 2015 constitution guarantees women's social, economic and political rights, and their active participation is constitutionally encouraged. The Agricultural Development Strategy 2015–2035 explicitly recognizes the importance of women's increased roles in cash crop activities (MOALD, 2020). There has been a significant increase in women farmers' skill development programs, exposure visits, and entrepreneurship startup grants (FAO, 2019). Economically, *Sudurpashim Pradesh*² is one of the least developed areas. With favorable climatic conditions for vegetable production and more development support programs for agriculture, there is great potential for smallholder households especially women to improve their quality of life through cash crop activities.

5. Methods

This study was conducted in two mid-hill districts, *Dadeldhura* and *Achham* (Fig. 1), of *Sudurpashim Pradesh*. Commercial vegetable farming in *Dadeldhura* started 40 years ago, but in *Achham* it started in the early 2000s. VPM activities are currently concentrated near road networks (mostly unpaved). Most rural roads are not operational during monsoon season, when produce is carried to markets. Given the small number of vegetable producers currently, study participants were purposely selected. Government agency and development organization officials at district level, smallholder farmers and women's groups in the selected communities provided support for identifying research participants. Some initial interviewees helped the researchers contact other farmers. Interviews and focus group discussions (FGDs) were conducted in homes and near farms or other preferred locations. All interviews and FGDs with the participants were conducted in local dialect and Nepali language. Given issues of cultural sensitivity, a female research assistant

¹ \$1 U.S. Dollar is approximately Rs. 114 (Nepali Rupees).

² *Sudurpashim Pradesh* [province] was formerly known as Far Western Development Region. Under the federal structure adopted in 2015 the region remained intact. There are no changes in districts but Village Development Committees and Municipalities within the districts have been realigned.

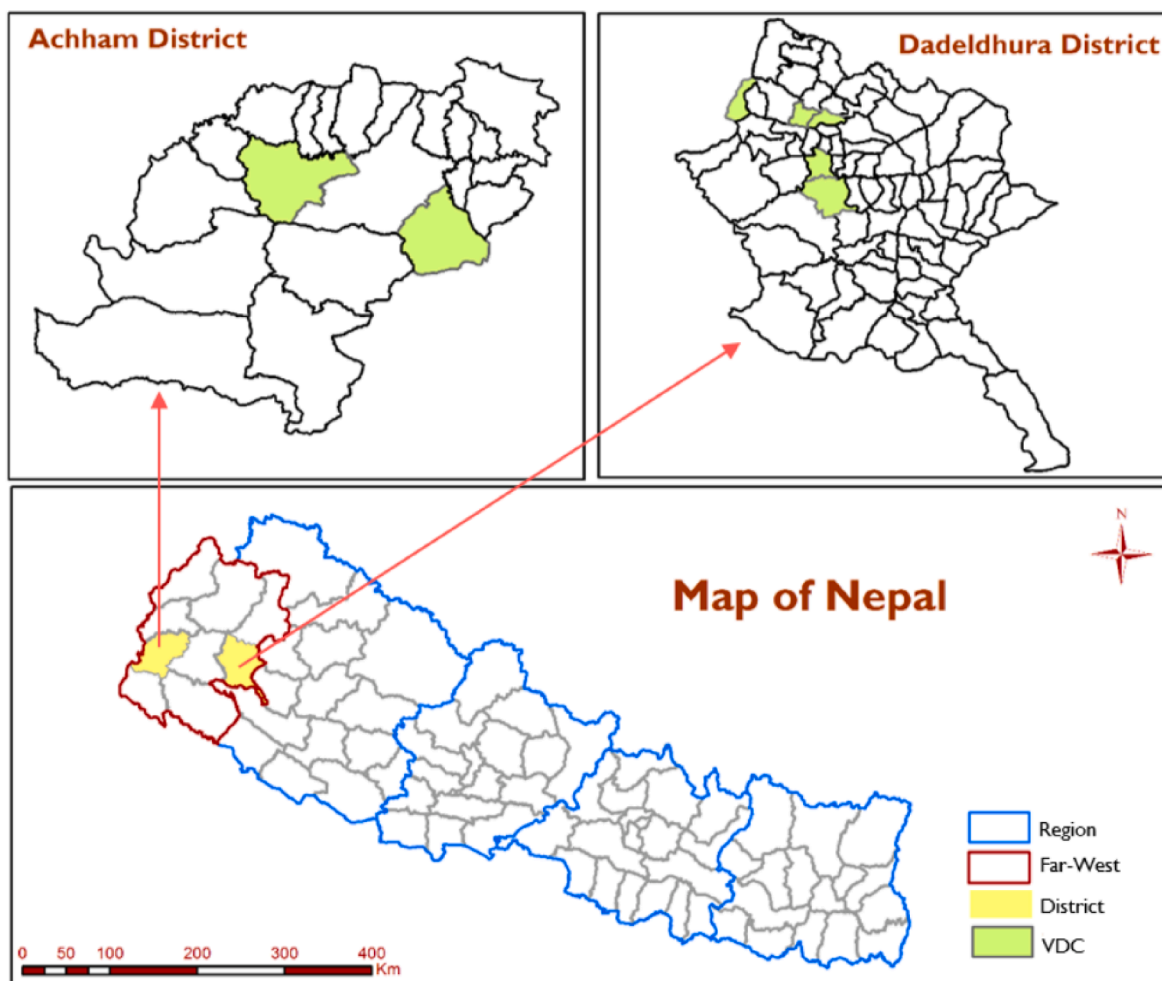


Fig. 1. Study Area Map.

fluent in local dialect and Nepali conducted interviews with women. Conducting FGDs with members of women’s groups in VPM provided insights about their negotiation processes (struggles and opportunities) at household, community and market levels. Key informant interviews and FGDs with representatives of government agencies and development organizations working on women’s issues and cash crop activities also provided crucial information on changing trends in agriculture and support mechanisms for VPM (Table 1).

6. Results

While government and development support are crucial for VPM initiatives and women’s increased roles, economic hardship propels the shift from cereal-based farming. VPM enables women to make important household decisions jointly with husbands and extended family members. Joint initiatives in VPM are increasingly accepted and appreciated. This study adds to research findings by documenting the significant decision-making roles of women with limited property rights. Further, while socio-cultural norms and practices may discourage couples joint

initiatives and women’s involvement in VPM, they have less effect when livelihoods are threatened, and economic opportunities exist. In this section, we present findings from in-depth interviews, FGDs, field notes and observations about participants’ characteristics, couples’ joint initiatives in VPM, and community and government development program support systems. Discussion and conclusion follow.

6.1. Participants’ characteristics

Couples’ involvement in VPM ranges from 3 to 27 years, primarily growing perishable seasonal vegetables (cauliflower, tomatoes, capsicum, cabbage, eggplant, okra, and potatoes). Very few couples produce only vegetables. Their principal motivation for engaging in VPM is to increase income to satisfy basic needs (food and clothing, children’s education, performing rituals, home construction) and buying more agricultural land. Most wives have less education than their husbands. Most received training and exposure visits about vegetable production through support from government agencies or development organizations before starting VPM. Women’s groups and farmers’ groups also played a vital role. Collectively, these institutions moderate the effects of traditional socio-cultural norms that restrict women’s participation in VPM and provide counselling and encouragement. Some younger couples were inspired by their parents’ prior VPM knowledge. Others started after observing their neighbors earning better incomes through VPM. A few women convinced their husbands to initiate these activities. Only few started VPM without external and/or internal support and motivation.

Table 1
Number and types of participants interviewed.

Interview Locations	Couples in VPM	Key Informants	Women’s Group FGDs	Key Informant FGDs
Achham	8	5	3	1
Dadeldhura	8	8	3	1
Kathmandu		4		1

The population is comprised of *Chhetri*, *Brahmins* and *Dalits* (>90 percent), with few *Janjatis* (tribal communities) (Central Bureau of Statistics, 2013). Since *Dalits* do not own sufficient land, they rarely produce their own food; most work on others' farms, prepare agricultural tools, or tailor clothes. *Brahmins* grow cereal crops but few produce and sell vegetables; we did not find any in the research area in *Achham*. Caste, class, and age influence gender patterns of farm management (Holmelin, 2019). *Brahmins*, who top the caste hierarchy, are more likely to restrict women's mobility and involvement in commercial activities. Tables 2 and 3 present characteristics (age, education, caste, family structure, years involved in VPM and annual VPM income) in *Achham* and *Dadeldhura* respectively.

6.2. Stimuli for joint initiatives in VPM

Low cereal-crop productivity and few off-farm employment opportunities push many males to seek seasonal employment (mostly low-income manual labor) in India, returning home during harvesting and planting seasons. Some return home with HIV and transmit this to their wives, endangering family livelihoods (Awasthi et al., 2015; Vaidya & Wu, 2011). Migration of Nepalese male and female youth to Gulf countries for employment is not readily available to many poor smallholders in the study area due to fees (Rs. >100,000 per person) and commissions required by recruiting companies. Government social safety net programs for the rural poor are also weak. Short-term aid from development organizations is helpful, but not a reliable basis for a livelihood. Community members unequivocally agree that government support systems and development activities are too often unpredictable and inadequately planned. However, expanding road networks and emerging markets near their villages, observing and learning from community members who adopt new farming models, support from farmers groups, government agencies and development organizations create a conducive environment for smallholder couples to initiate VPM activities. While many women have little or no formal rights over ancestral properties such as homes, land, agricultural tools, domestic animals, and cash, this has little impact on women's involvement in VPM because of significant support from their husbands working together and making important household decisions with them. Earning income and meeting basic needs feature prominently in farm household conversations, with husband and wife committed to shared responsibilities. Such conversations occur while walking to their fields, during breaks between farm activities, after meals and at bedtime.

Aspiring to take advantage of emerging opportunities, husbands and wives allocate more land and resources to VPM. We highlight couples'

initiatives and women's decision-making roles in VPM within the household concerning the following domains of activities: *initiating change, land and crop selection, farming activities, harvesting and selling, keeping income and managing household expenditures, and investments.*

6.2.1. Initiating change

Traditionally, smallholders did not market their agricultural produce because the closest market was commonly a day's walk away and selling agricultural produce was not a widely established norm. Women did not travel out of their villages. Even today, women in *Chhetri* and *Brahmin* families rarely participate in market activities. *Brahmins*, who are also known as priests and worshipers, are more restrictive regarding women's participation in market activities than *Chhetris*. Recent gender-inclusion policies, subsidies for women farmers, improved access to education, advocacy for women's rights, cell phones, social media and online news portals, radio and television programs have created favorable conditions for women's entrepreneurship.

Most couples jointly discussed strategies to start VPM; in some households, wives initiate it while in others husbands do. H7D explained: "I proposed that we have some options to earn income to support our family, for example, raising goats, raising buffalo or producing vegetables. But my wife said we should do vegetable farming." However, W8A shared, "I went to visit to *Salyan* district and observed that one women's cooperative was producing tomatoes using 64 plastic tunnels. I immediately thought I can also do the same thing and we both decided." Some (husbands as well as wives) persuaded their spouses to get involved in VPM. H5A and his wife discussed producing and selling vegetables though he was the persuader. H7D stated that if his wife had not agreed, he would not have started VPM. W6A is very proud that she initiated VPM while her husband was still in India. She explained:

He worked with one of the governments supported programs for 17 years in many districts in Nepal. When he left the job, he did not get any incentives. Then he went to India and stayed there 4–5 months. He did not send any money. I asked him what do you do there? He said I work in a hotel. Then I asked whether you also wash dishes? He said yes. Then I asked why you want to wash other's dishes. I told him that I have paid all loans we owe and saved Rs. 40–45,000 in the bank and told him to return home and he came.

Her statement reflects women's active roles in decision making and their husbands' attention and cooperation. Many young women such as W6A are educated, capable of persuading their husbands, and successful in VPM.

Table 2

Participant Characteristics - *Achham* District.

S.N.	Age (years)	Education	Caste	Family Structure	Years involved in VPM	Annual VPM Income (Rs.)
W1A	30	Intermediate Degree	Chhetri	Single ¹	10	35,000–40,000
H1A	38	Bachelor's Degree				
W2A	50	Illiterate	Chhetri	Joint ²	15	100,000–150,000
H2A	50	Literate				
W3A	43	Illiterate	Chhetri	Single	13	>250,000
H3A	47	High School				
W4A	45	Illiterate	Chhetri	Single	16	400,000–500,000
H4A	48	High School				
W5A	40	Primary School	Chhetri	Single	20	200,000–300,000
H5A	49	High School				
W6A	33	Intermediate Degree	Chhetri	Joint	12	300,000–400,000
H6A	41	High School				
W7A	47	Illiterate	Chhetri	Single	21	150,000–300,000
H7A	48	Literate				
W8A	29	High School	Chhetri	Joint	6–7	100,000–150,000
H8A	33	High School				

¹ Single family refers to husband, wife, and children.

² Joint family refers to husband's parents, husband, wife, and children. It may also include married or unmarried siblings (husband's brothers and sisters) sharing household resources.

Table 3
Participant characteristics - Dadeldhura District.

SN	Age (years)	Education	Caste	Family Structure	Years involved in VPM	Annual VPM Income (Rs.)
W1D	27	H.S. Dropout	Brahmin	Joint	10	>150,000
H1D	28	H.S. Dropout				
W2D	22	High School	Chhetri	Single	20 (widowed; remarried 4 years ago)	>700,000
H2D	45	Intermediate Degree				
W3D	65	Illiterate	Chhetri	Joint	28	300,000–500,000
H3D	68	H.S. Dropout				
W4D	35	Primary School	Chhetri	Single	15	150,000–250,000
H4D	37	High School				
W5D	45	Illiterate	Chhetri	Single	20	>200,000
H5D	47	H.S. Dropout				
W6D	30	Illiterate	Chhetri	Single	7	>150,000
H6D	32	H.S. Dropout				
W7D	66	Illiterate	Chhetri	Joint	23	200,000–300,000
H7D	71	Illiterate				
W8D	27	Primary School	Brahmin	Joint	8	100,000–200,000
H8D	30	High School				

6.2.2. Land and crop selection

In joint households, land allocation can create some degree of conflict between young couples and their parents who have longstanding preference for cereal crops. Some parents express reservations about using the most fertile land for vegetable production. They are often concerned about risks of producing and marketing new crops, potentially endangering already precarious household food security. Irrigated fertile land is still reserved for rice, wheat, and lentils. It is sometimes difficult for couples, especially women, to convince their in-laws to use fertile land for VPM. However, some parents stated that their sons and daughters-in-law often insist on using fertile land for VPM and do not fully follow their instructions. Seeing others earning income in the communities, they acknowledge VPM's income potential, eventually being supportive. Additionally, parents have increasing confidence in their educated children's decisions, especially if they themselves have some level of education. With no co-resident parents, decisions regarding land and crop selection are more amiable. H2A, H4A, W1D, W2D, W6D, reported that land selection, field preparation work, and crop selection involve both husband and wife.

Not all women are involved in land and crop selection. Level of education and training exposure are factors in women's increased active decision-making roles. W3A stated: "I am illiterate, and I do not know much about the types of land. My husband decides most things. I only contribute to field preparation." She added, "However, my husband always informs and asks me on any decisions he is going to make about these issues." Husbands and wives trust each other more if they have prior knowledge and training about land and crop selection. For example, W6D shared: "I listen to my husband because he has traveled many places and learned much more than me." H8A's wife is more knowledgeable and he is very proud of it. Most husbands happily accept their wives' proposals. When asked whether he will listen to his wife if she proposes producing eggplant not okra this year, H5A responded: "Why not? She spends more time in the field, but also she has good knowledge about vegetable production." In most cases, land and crop selection are jointly decided.

6.2.3. Farming activities

Husband and wife work together on the farm. W1D, W2D, and W6D reported that land selection and field preparation are jointly performed. Elders and children above age 10, especially girls, also significantly contribute to farming activities. Traditionally, farm activities were strictly designated men's and women's work, but this belief system is changing. In the past, carrying manure to fields was strictly women's work. Some men involved in commercial vegetables production now perform these activities. However, most are hesitant to carry manure, especially in bamboo baskets (considered women's tool). Weeding and preparing compost fertilizer is mostly women's work. Plowing land is

still men's work. All other farm activities in VPM are shared. Chemical fertilizers and pesticides are jointly applied. From planting to harvesting, smallholder couples carefully tend their vegetables - weeding, irrigating and inspecting vegetables for diseases and insects. They also protect vegetables against theft and domestic and wild animals.

6.2.4. Harvesting and selling

For most couples, experience and field observations help them decide when vegetables are ready to harvest. However, some follow instructions provided on seed packages for planting and harvesting times. Deciding when to harvest is not a major issue for couples. Instead, they focus on getting best prices for their produce. Their discussions focus on current market prices, fixing tentative rates for their produce, deciding who goes to sell and where to maximize profits. Based on market prices, husbands and wives jointly decide to harvest or delay a few days, hoping for a better price. H1D shared, "We both decide. We discuss and see whether we make more profit by selling in the markets or in the village." W8D and H6A also described joint efforts in harvesting and selling.

Educated women and those whose husbands are not home are more likely to market produce. Some women noted myriad other obligations at home, and preference that their husbands manage marketing. None reported a husband discouraging them from market activities. In fact, many husbands encourage their wives to travel to markets and manage expenditures for household needs. H1D, H2A and H7A always encourage their wives' marketing since they bring all income home. H2A indicated some restrictions on women's movements to markets in his community. However, no woman reported facing direct restrictions or confrontation with community members regarding travel to markets. Some women still feel obliged to seek consent from husbands and in-laws to travel. This is reflected in FGD3A participants. They collectively said, "We still ask our husbands, but we are very free to travel to markets these days." Illiterate women are less confident about selling vegetables, especially if older. W3A is not comfortable engaging in market activities. She longed for some level of education. W3D, age 50, said, "I do not know anything about selling vegetables. My husband is the *Malik* (boss) of the house. He deals with everything." However, a few women are independently engaged in selling vegetables. For example, W4D travels to markets, sells vegetables, and keeps track of production costs and earned income.

6.2.5. Keeping income and managing household expenditures

In every household, husband and wife have deep conversations about income utilization. Regardless of their age and educational background, most women are trusted to keep income. Income is mostly spent on basic household needs, buying food, clothes, children's schooling, children's wedding, rituals, etc. Husbands believe that wives

keeping income almost certainly improves family well-being, especially since some husbands spend money on alcohol, cigarettes and gambling. It is interesting that some husbands refer to their wives respectfully as Madam or Boss, more commonly among young and educated husbands. When asked who keeps income in the family and spends money, H1A said, "Mostly my Madam (wife) keeps money. If I need, I ask Madam." H8D said, "My wife keeps all the income. She is the 'Boss' of the family." These terms, rarely used in the past, reflect changing perceptions towards women's status and roles in the household economy.

Women take pride in keeping income, having authority to spend and their husbands' trust. W7D said, "You know women are considered as *Laxmi* [Hindu Goddess of wealth] so, I must keep the income with me." She believes that it is auspicious for women to hold the money in the family. W8A appreciates that her husband preferred that the savings account be in her name. H7D also opened a saving account in his wife's name and most of their income is kept there.

Even though most women keep income, some do not necessarily hold full authority over it. When W7A's husband asks for money, she must give him without questioning. Some participants in FGD2D also keep the income and give it to their husbands when asked. Some prefer to give income to their parents, especially if they are coresidents. H6A prefers that his parents keep the income, and asks them when needing money for household items, while W8A provides some income to her mother-in-law.

Some see no rationale for letting their wives keep income. H2D explained: "I inform how much we earned to my wife, but since I have taken loan and invested in VPM activities including buying land, building home and so on, I keep the money." He added, "I do not see great logic in giving income to my wife because the income is further invested to better our family's economic wellbeing. But all these activities are done in consultation with my wife." Some stated that their wives simply do not keep the income. H3D said that his wife, who is illiterate, does not recognize currency denominations and refuses to keep any income. Few reported that they keep the income together. H5D and H6D always discuss earned income with their wives and they keep it at home (they both know where the money is kept) readily available for household needs.

Some couples always share details about spending. Most women reported that they always discuss expenditures with their husbands, even small amounts. Sometimes, women do not inform their husbands about personal expenditures, clothing and cosmetics. However, most husbands do not provide details about their spending, especially on alcohol and gambling. When asked whether his wife seeks permission for personal spending, H4D replied that he has no problems when his wife makes such expenditures. Most husbands see no problems when their wives do not consult them prior to buying personal goods.

In some cases, women are strict about how income should be spent in the family and take full control of the money. W7D explained: "I keep the money and I only give money to my husband and other family members when they intend to spend money on household needs." W7D, age 66, provides evidence that, although illiterate, elderly women may have control over household incomes. W1A made a similar assertion. However, some women fear that if they control income, their husbands may not fully participate in farm activities. A participant in FGD2D said, "Sometimes we have to give money to husbands, although we know that they are going to spend it on alcohol, because we need them to work on the farm." Overall, men make more personal expenditures than women.

6.2.6. Investment

Couples thoroughly discuss major future investments, for example, buying bulls, water buffalos, land, building new homes, and purchasing gold jewelry. Sending children for further studies in major cities and their weddings are also rigorously discussed. Most wives stated that they have full participation in all major decisions. W4D shared her experience: "My husband and I always discuss investments. Sometimes, I take money from my women's saving groups and give it to my husband, if

needed. We always use the money for good." W6A suggested that she and her husband always discuss and plan future investments. They plan to start goat rearing for income and generating manure for vegetable production. Additionally, they plan to buy land in *Dhangadhi* (a major city in *Shudurpashim Pradesh*). W1A and her husband plan to borrow from the bank and build a new home. They intend to expand vegetable production to generate more income to help repay the loan. W1D, W8D and H5D always discuss major investments with their spouses; in joint families, they seek their parents' blessings.

6.3. Socio-cultural norms and women's expected roles

While decisions regarding VPM primarily involve husband and wife, other influences (supportive or dissuasive) include family members, peers, socio-cultural norms and women's groups and extension support systems. In general, women are expected to take care of their children and other domestic chores (collecting firewood, cooking, collecting fodder, animal husbandry, etc.). They are also expected to take care of husbands and in-laws. Women traveling to markets, speaking with male strangers, and participating in trainings away from the village are still considered unusual or deviant. Women try to return home before dark, as generally expected by family and community members. Failure may generate criticism, at least privately. Some women live in fear of what people will think and say, based on others' experiences in the recent past. However, none of the women interviewed stated that these socio-cultural practices hinder their VPM. Women's participation is becoming an accepted norm.

6.4. Community support mechanisms

There are various types of women's groups in the community: farmers, health, forest, water, saving and credit, mothers, etc., with most initiated by government agencies and development organizations to facilitate agricultural and other community programs. W2A, a member of farmers and mothers groups and a volunteer for community health, noted that during group meetings they exchange training experiences, travel arrangements, moral support and guidance for women traveling outside the village, health, agriculture, and other work-related issues. Women work together on many issues, with good understanding and unity. W4D shared: "We have great cooperation among sisters [women]. We work in everyone's farm if needed." She added, "We discuss enhancing vegetable production. For example, if I have better production, I share with others why it has become better. We also share ideas about controlling insects and diseases. All women in our group are very cooperative and active."

Most women learn emerging VPM ideas from women's groups. They see women's groups as important not only for enhancing income but also a great source of strength in negotiating with family members, especially for traveling and staying outside the village for skill development training. H1D noted: "When women need to go out of the villages, women's groups use their connections and networks and facilitate such programs. They also provide encouragement, counseling, and guidance to women, particularly to newcomers." Members of women farmers groups also take initiatives to convince husbands to allow their wives to travel to markets to sell vegetables and attend trainings. This is well described by participants in FGD3D: "Many husbands allow their wives to travel to markets and participate in trainings these days. Those who do not allow, we meet them and explain the importance of women participating in these activities. Most husbands accept our suggestions and allow their wives to travel."

However, not everyone views women's groups positively. W7A had a very negative experience. She said, "No, I am not associated with any kind of women's groups. Whoever is there takes the opportunity. They provide some seeds; it is very little. Sometimes they also provide fertilizer, but I have not got anything out of it." Some (e.g., W2D) are not aware of the specific types of groups to which they belong. Sometimes

women in the community are picked by their relatives or friends without their consent to be in women's groups so that the family can access training, material inputs or finance.

6.5. External support systems

Commercialization of vegetable farming in the research areas is now a government priority. ACDOA noted, "Government provides huge subsidies to vegetables growers in the region. Farmers, especially women, can get up to 75 percent subsidy to purchase modern equipment. But only 5 percent of women are engaged in vegetable production." He added, "Every program intervention is targeting 60 percent women to 40 percent men ratio." Disagreeing, SADOA believes that 90 percent seeking farm support are women.

Government invests in women farmers through training and skill development programs. After 3–7 days of extensive training on commercial vegetable promotion, women 'model' farmers share their skills with other women in their communities. Local government offices organize farmer field schools with helpful demonstration plots for vegetable producers (W1D and H1A). Government also supports men in vegetable production and marketing. Women-only trainings were less effective than those including men. WDOA said, "Mixed training groups helped men realize that they were contributing very little to family. Some husbands confessed their mistakes and asked their wives for forgiveness." However, WDOD was concerned that women would not feel comfortable to freely speak about issues when men are included.

Many couples in *Dadeldhura* and *Achham* reported significant support for VPM from government agencies and development organizations. H4A and H3D greatly appreciated training and seed support to get started. Support includes free or subsidized plastic tunnel houses, seeds, pest management kits, micro-irrigation projects, on-farm technical support and community demonstration farms. Policy dialogues and awareness programs provide moral support and counseling to women farmers and their families and discourage harmful practices against women. However, not everyone is happy with external support systems. During FGDs, some participants expressed concerns about unrealized commitments to help market produce made by some development organizations.

6.6. Challenges

Obtaining appropriate prices is major concern for VPM couples. Vegetable market prices are often controlled by small local shops that supply towns and cities outside the district. They often trick farmers by falsely proclaiming no demand for certain vegetables, or that prices have fallen sharply. When farmers call people in other towns to verify prices, vendors may simply refuse to buy. If they fail to maintain close relationships with these buyers, they may have difficulty selling even at low prices in the future. Sometimes, couples delay or harvest early to maximize profits. However, such strategies often do not work. Lacking cold storage, they cannot keep perishable vegetables for more than 3–4 days. Some farmers always expect to receive high prices which do not accurately reflect production costs. But many vendors sell large quantities of cheap vegetables imported from unregulated border areas inside India, often containing high pesticide levels to local consumers and hotel and guest house owners.

Another major challenge for VPM farmers is neighbors' domestic animals, which roam freely after cereal crop harvest, as well as wild boars and monkeys which can destroy vegetable fields in minutes, requiring constant monitoring. Farmers also face serious issues with erratic rainfall, hailstorms and prolonged drought. Since most village populations are scattered, irrigation in the hills is extremely challenging and expensive. Government agencies and development organizations' efforts to harvest rainwater are inadequate for vegetable production.

Further, subsidy programs are not reaching designated beneficiaries. There is a gap between policies and programs and women's actual

needs. KIUNK and a participant in KIFGDK suggested that many women are unaware of government subsidies. They argued that the Ministry of Agriculture does not know the exact situation of women in villages, for example, that rural women cannot 'cost share' Rs. 50,000 to participate in subsidy programs. District government officials confessed that current approaches to subsidies and support mechanisms are not effective. DHOA points out the lack of proper communication between government officials and smallholder communities. One classic example is that many farmers are not fully aware of provisions in commercial vegetable crop insurance and its full benefits; as a result, they are not willing to initiate VPM and prefer to continue growing cereal crops.

7. Discussion

The concept of commercial vegetable production in general is not yet widely accepted in the mid-hills of *Sudurpaship Pradesh*. Consequently, many smallholders are yet to fully embrace these activities. Additionally, cereal-based crop production systems are well-established in farming culture that traditionally ensured household food security for at least 5–6 months annually. With no viable source of income or reliable social safety net, many smallholders - especially the older generation - are skeptical about possible benefits from VPM. However, with no formal sector employment opportunities, continued land fragmentation and reduced cereal crop productivity, smallholder families are under tremendous pressure to explore alternative means of livelihood. Smallholder farmers' principal goals necessarily focus on viable household livelihoods (Doss, 2018; Ransom & Bain, 2011), and realizing their goals motivates husbands' and wives' cooperation and shared decisions (Miller, 1990). As observed in other developing countries (Hudu, 2017), women in Nepal's mid-hills were not encouraged to market agriculture produce. However, providing for family needs can compel resistance to social norms restricting women's initiatives (Quaye et al., 2016; World Bank, 2009). Economic opportunities, programs and subsidies encourage more women to participate in VPM.

Some elders may still have reservations about their children using the most fertile land for VPM and daughters-in-law travelling outside their village, but they rarely interfere with couples' decisions. Husbands' understanding, support and working together is crucial for women's full participation in VPM. Most husbands and wives seek each other's advice and consent regarding VPM, for example, land and crop selection, harvesting, marketing, expenditures and investment. These findings contrast with those of Baba et al. (2015) and de Brauw (2015) who suggested that women in smallholder communities have only minor roles in cash cropping. The findings also contrast with presumed views of women as not being capable farmers, marketers and income generators (Colfer et al., 2015). Household and community members increasingly appreciate women's active roles in VPM and income earned.

While land and other productive assets are registered in the husband's name, this does not inhibit women's decision-making roles in cash crop activities. Income in women's hands is consistently devoted to family wellbeing, consistent with Chant (2016) contrasting with Oduol et al.'s (2017) male-controlled perspective. Further, considering women's work as undercounted, their contributions to household income as undervalued, and their decision-making roles as underappreciated in developing countries (Hudu, 2017) sharply contrasts with our findings. Many husbands readily acknowledge their wives' contributions to the household economy and openly advocate for more roles and opportunities for them so that family basic needs are secured. As more women participate in VPM and earn income, it stimulates others to join. Couples involved in VPM are successfully earning income, meeting their families' needs and making further investments.

However, we do not suggest that women experience no discrimination or subordination or that all women have the same level of involvement in VPM activities. Socio-cultural norms such as women taking care of domestic chores, not traveling outside their villages, respecting their husbands and elders, not interacting with male

strangers, etc. may still impact women's full participation in VPM and household decision making, directly or indirectly. Some women may be concerned about how community members view their mobility and new social interactions related to VPM, but these concerns do not significantly hinder them. Consistent with previous studies, level of education, trainings and farmer-to-farmer exposure visits positively impact women's participation and decision-making roles in VPM activities (Chant, 2016; Hill & Vigneri, 2011). However, evidence in this study shows that even illiterate women are very capable of making decisions in VPM and managing income.

8. Conclusion

It is undeniable that women in developing countries face an array of discriminatory and restrictive practices and their roles in important household decisions are often undervalued. Women often have little or no formal access to productive assets and support for involvement in cash crop activities. But it would be a mistake to assume that all women in developing countries have very little or no decision-making roles in household livelihoods. Regardless of their socio-cultural context, women's age and education, husbands and wives have a collective responsibility to meet household needs and often work together to achieve this. When a household's core livelihood is threatened, couples and extended family members work together to avert crises (Folbre, 1986; Jackson, 2007; Sen, 1987). Such urgency not only offers women more opportunities for income earning but also challenges established socio-cultural norms and practices (Seymour, 2017). In such situations, they receive strong support from their husbands. This creates a new social norm enabling more women to seek economic decision-making roles.

This study focused on a relatively small number of couples, most of whom reside close to road networks and emerging towns, limiting broad generalization. Yet key findings contrast with previous research about women's household decision-making roles in VPM and provide encouraging avenues for further research. Many past studies conducted in similar contexts suggested that women face major challenges. These include male domination (patriarchy), women's limited access to agricultural land and inputs, and male control over all aspects of cash crop activities. Strikingly, this study found that couples involved in VPM in Nepal's rural mid-hills jointly make decisions to achieve viable livelihoods and satisfy family basic needs. They are less concerned about traditional socio-cultural norms which hindered women's actions. Although many women still seek permission from husbands and in-laws to travel for trainings and farmer-to-farmer exposure visits, they do not require extra effort to convince their husbands. Many women have taken lead roles in initiating VPM activities. There is a growing market for fresh vegetables in the country. Despite opportunities and support, very few couples are engaged in VPM. In similar communities, what motivates and facilitates select smallholders to initiate and continue VPM while a majority remain cautious? Detailed mixed methods comparative research involving households engaged in VPM and households that are not currently involved in VPM from various caste and ethnic groups in different communities in Nepal is imperative to fully understand these questions. This can help identify ways to enable more to achieve viable livelihoods, improved well-being, meaningful women's empowerment and social change. Most preeminently, future research can enhance understanding of how women's increased roles in VPM at the household level and active participation in women's groups in their communities contributes to broader empowerment and transformation of gender roles and development in rural communities in Nepal.

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