

How does male out-migration impact the lives of left-behind women? Trade-off between feminization of agriculture and empowerment of farm women

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ABSTRACT

Male out-migration has become a key livelihood strategy to diversify farm income in the developing nations. This has a widespread effect in terms of a significant shift in gender roles and a change in the agricultural landscape. Current research frequently depicts the left-behinds as passive recipients of remittances, ignoring their experiences of separation and how they maintain the farm. In this context, present study aimed to evaluate the impact of male outmigration on the feminization of agriculture and empowerment of the left-behind women. Relevant literatures were collected by systematically searching the online databases. By following the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) standards, 25 articles were finalized for the review process. The decision-making ability of the left-behind women on and off the farm was found improved, but it was influenced by the family composition. The feminization of agriculture has been found hampering farm productivity and increasing the drudgery of women. Due to male migration, the autonomy of women has increased to some extent in terms of decision-making, access to resources, and mobility in nuclear family. Understanding the gendered consequences of male out-migration will help to formulate policies and programmes that strengthen the position of left-behind farm women. The empowerment of women on the farm and within the household needs to be discussed beyond the role of gender in agriculture, and the intersectionality of different social factors is important to gain better insight into individual experience that will be pivotal for future programme planning for addressing both the issues of male migration and empowerment of farm women.

1. Introduction

Rural communities are experiencing a crisis of survival because of the protracted agricultural crisis, which is fuelled by neoliberal economic policies. Evidence at both the macro- and micro-levels shows that farm households are increasingly finding it challenging to sustain simply on agriculture in a variety of geographical contexts. Migration as a livelihood strategy to diversify income has become a key coping strategy (Mishra, 2020; Singh, 2020; Singh & Basu, 2020). The larger economic incentives provided by the globalised and urbanised system as pull factor, while poverty, stressed ecosystems, market uncertainty, climatic changes, and socio-economic-cultural-institutional-political

environment as push factors determine the characteristics of migration (Parkins, 2010; Saha & Goswami, 2020). According to international migrant stock data 2020, more than 40 % of the world's international migrants—roughly 115 million—came from Asia. Natural disasters and political instability are the main drivers of migration from different regions of the continent (International Organization for Migration, 2024a). In 2023, four out of five highest remittances receiving countries are in Asia, with India being on top, receiving the highest amount, i.e., 120 billion USD (International Organization for Migration, 2024b). Asia has emerged as a model for theory, policy, and empirical research on global migration. Since the 1970s, the continent has seen significant and ongoing population changes, which have naturally led to an increase in

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scholarly interest in the region. For many years, Asia has seen a considerable amount of cross-border South-South or intraregional migration in pursuit of employment and a living. Migrant workers, particularly men, are overrepresented in many Asian labour markets, such as construction, plantation/agriculture, and fisheries (Asis et al., 2019).

The Neo-classical theory of migration, which emphasizes the individual rational choice to migrate, fails to capture the scenario of the developing regions. Here, the choices are scarce and often made at the household level. The New Economics of Labour Migration (NELM) (Stark & Bloom, 1985) recognises migration as a household strategy that seems to be most relevant in this context. The decision of migration can be attributed to a household rather than a single individual's choice. Migration as a condition has diverse effects on women's and men's lives, and it also gives them the opportunity to challenge established power structures in a variety of formal and informal settings (Afsar, 2011). While there has been a lot of discourse around the wellbeing of the migrants at the destination, the migrants left behind, which is a much larger group than the migrants themselves, is often forgotten.

The migration of male members without the wife and children has become a culturally accepted trend in the developing regions. In patriarchal societies, migration is gendered (Srivastava, 2011). When husbands cross the border to work, they leave their families behind; wives and children do not accompany them, which seemed the most economically feasible option (Ullah, 2017), and because of the adverse living conditions at the destinations (Biao, 2007). Women are left behind as guardians of the land to ensure food security, livelihood, and collateral (Srivastava, 2011).

The growing literature around the impact of remittances treats the left behinds as passive recipients and very little attention has been paid to how precisely those who are left behind experience and cope with absence, grief, and missing family members or community members, the very essence of being left behind (Toyota et al., 2007; Biao, 2007). The demands placed on women, who are married and bear most of the household management responsibilities, consequently, increase the burden and responsibilities of women who are left behind. This then becomes emotionally and physically taxing because women have encountered various types of anguish due to their social and material conditions. The main causes of women's psychological stress were the strain of child care, farming, loneliness, and a sense of fear and uncertainty (Wrigley-Asante & Agandin, 2015; Singh, 2018; Rai et al., 2023).

Domination of male out-migration brings the discussion around feminization of agriculture to the limelight, when women must take the productive tasks along with their reproductive duties and previous farm roles. The phrase "feminization of agriculture" broadly refers to women's growing involvement in this sector, whether as independent producers, as unpaid family labour, or wage workers (Pattnaik et al., 2018; Nanda et al., 2024). When migration of a male member occurs the loss of labour is compensated by the female in the household. In such households, women engage as unpaid family member to maintain the farm (Binzel & Assaad, 2011). It places a great burden on left-behind women who are already time poor without giving them any social recognition (Wrigley-Asante & Agandin, 2015). Therefore, rural women carry the triple weight of cultural standards that are oppressive and the demands of production and reproduction. This responsibility forces women to work in agriculture rather than manage it, and as a result, their labour contributions frequently stay domestic in nature, underpaid, unacknowledged, and stereotypically contribute only as an additional hand without allowing them to develop managerial abilities (Pattnaik & Lahiri-Dutt, 2020).

Empowerment itself is a latent phenomenon, and thus not directly observable (Mahmud et al., 2012). It is crucial to remember that there is no set road to empowerment, and many facets of empowerment are very subjective and influenced by culture and context (Alkire et al., 2013). The phenomenon of male out-migration carries significant implications on the complex gender relationships. The empowerment of the

left-behind women happens through a gradual shift in their gender roles. Absence of the spouse allows the women to broaden their involvement in farming and community spaces in addition to their domestic duties (Slavchevska et al., 2020). The absence of men has resulted in notable increase in the female headed households, increased managerial ability of women, and their representation in the social spaces. However, the control over the economic resources and participation in decision making process have been critical in enabling women's empowerment and catalysing the shifts in gender dynamics in society (Khattri, 2023).

In the developing countries like India, several government programs and interventions have been implemented to support women, especially in rural areas. These include livelihood initiatives like India's National Rural Livelihood Mission (NRLM), which gives women more authority through skill development, microcredit access, and self-help organizations. While the financial inclusion programs like the *Pradhan Mantri Jan Dhan Yojana* (National Mission for Financial Inclusion) allow women to directly access money, social protection programs like Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) provide income support and local employment. Gender-inclusive programs like the *Mahila Kisan Sashaktikaran Pariyojana* (Women Farmers' Empowerment Project) offer crucial resources and training in recognition of the growing role of women in agriculture. However, there is a significant gap in government initiatives that exclusively address the left-behind farm women because of male migration. Moreover, despite these efforts, the inconsistent implementation and accessibility of these interventions highlight the need for more focused, situation-specific policies that acknowledge the varied experiences and empowerment of left-behind women.

The phenomena of male migration in rural areas pose the questions like, i) is agriculture being feminized because of male out-migration? If so, what is the impact of the feminization process on farm output? and ii) is there an increase in the empowerment level of women due to male out-migration? In this backdrop, a systematic review was contemplated to unearth how the male migration has impacted the lives of the farm women. The study was undertaken with the objectives i) to understand the feminization of agriculture in the context of male migration and ii) to find out the probable empowerment of left-behind women due to the absence of men. The current study helps to both evaluation frameworks and future program planning by providing a concentrated understanding of altering gender roles in agriculture. The understanding of how the absence of men results in increased responsibilities for women—not only in farm labour, but also in household decision-making, financial management, and community participation—allows for the development of more gender-responsive evaluation frameworks that assess not only economic outcomes, but also social empowerment, access to resources, and well-being. Furthermore, the findings help to shape future initiatives by identifying the specific needs and obstacles that women in male-outmigrated households face, such as agricultural training, financial access, psychosocial well-being, and leadership development. By contextualizing male migration as a cross-cutting issue affecting farm livelihoods, the review advocates for inclusive and evidence-based policies that tackles farm women's vulnerabilities as well as growing strengths in a changing socioeconomic landscape.

The paper proceeds with the subsequent sections. Section 2 gives an overview of the methodology followed for the study. Section 3 presents the results of the review in terms of study characteristics, analytical approaches followed, variables, and key findings. Evidence of the process of feminization of agriculture and women empowerment because of male out-migration, as described in the studies is presented in detail in this section. Section 4 presents a discussion of the results followed by limitations of the review and lessons learned. Section 5 provides recommendations based on the study followed by a conclusion in the Section 6.

2. Methods

Following the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) standards (Page et al., 2021; Bjørknes et al., 2025), present literature review was carried out.

2.1. Search for literature

The present study aims to find evidence of the dynamic nexus between male out-migration, feminization of agriculture, and women empowerment process. For gathering relevant literature, Google Scholar, Web of Science, and Directory of Open Access Journals (DOAJ) databases were selected. The keywords were carefully selected, which would help answer the review questions. The keywords “male migration” or “rural out-migration” and “left-behind women” or “farm women” or “gender role” or “feminization of agriculture” or “labour participation”, “women empowerment” or “autonomy” etc. were searched both independently and in combination to obtain maximum possible information. The search included both published and grey literature. From the search engines’ first 50 hits were filtered out, and the search continued with ‘cited by’ and ‘related studies’ for Google Scholar. The pool of literature gathered was 473, and after deletion of duplication, 436 articles were subjected to screening based on title and abstract.

2.2. Screening process and quality assessment

At this stage the studies which confirm to the following inclusion criteria were only considered for inclusion 1) studies conducted in Asian region; 2) published only in English language; 3) published after year 2000; 4) studies considering impact at origin 5) studies primarily focusing left-behind women; 6) studies using quantitative, qualitative, and mixed methods. As a result, articles exploring the conditions of migrants at destination, focused on children or other members, were excluded from the review. Policy documents and reviews were also not included in this study. Details on the inclusion and exclusion criteria are presented in Table 1.

The overview of the screening process is given in Fig. 1. Out of 473 articles obtained from the databases, 436 were subjected to screening of titles after deleting the duplicate references. 284 references were found not to be related with the study and hence removed. Screening of abstracts for 152 articles was done and at this stage, inclusion and exclusion criteria were applied. This resulted in the exclusion of 102 articles, and 50 are sought for retrieval. The full version of seven articles was not available. Thus, a total of 43 studies were extracted for full text analysis and seven studies were found to be beyond the scope of the study, in four studies the primary focus was not on the left-behind women, three studies were found to be not discussing male migration, in two studies feminization of agriculture was not presented as result of male migration and one study was based on urban population. Hence, 26 articles were subjected to quality assessment.

Quality assessment was done following approach suggested by Health Technology Assessment Unit Initiative (Kmet et al., 2004) and 5

Table 1
Inclusion and exclusion criteria of the studies.

Parameters	Inclusion criteria	Exclusion criteria
Geography	Countries in Asia	Countries outside Asia
Language	Only English	Any language that is not English
Time frame	Studies published after 2000	Studies published before 2000
Outcome	Studies that deal with the impact of migration at the origin. Primary focus on left-behind women	Studies that deal with the impact of migration at destination. Primary focus on others
Study type	Research that uses quantitative, qualitative, and mixed method	Literature reviews and policy documents

criteria were assessed 1) objective/ research questions clearly defined; 2) study design is appropriate; 3) sampling strategy is relevant; 4) method of data collection is free of bias and clearly mentioned; 5) Analysis of data is systematic. The studies were given 2 points when fully satisfied the criteria; 1 point for partially satisfying the criteria; and 0 if not at all fulfil the criteria. The maximum possible score for each article is 10 and can be included in the review if scored more than 5. After quality assessment, only 1 study failed to meet the standard hence dropped from the review process, and 25 articles were finalised for inclusion (Table 2).

2.3. Data extraction

Key information was extracted from each article in requirement with the objectives of the study. Table 3 provides data of author and year, country, aim of the study, source of data, method of analysis and key findings. To get better insight into the impact of male out-migration, we carefully examine the result and discussion section and try to identify how the migration of male members along with the other social, demographic and economic factors bring about changes in the lives of those who are left behind especially women. The nature and quality of the research that are part of the review determine whether or not statistical analysis (meta-analysis), is used (Lau et al., 1997). The articles considered for this review were not homogenous in terms of study settings, study designs, and presented outcomes which reflect clinical heterogeneity (Munn et al., 2014; Lensen, 2023); hence led to narrative instead of empirical/meta-analysis (Pandey et al., 2016; Olum et al., 2020). The term "narrative" synthesis describes a method for the systematic review and synthesis of results from several research that mostly uses text and words to summarize and explain the results. Although statistical data manipulation may be a part of narrative synthesis, its distinguishing feature is that it uses a textual approach to the synthesis process to "tell the story" of the findings from the studies that were incorporated (Popay et al., 2006). Narrative synthesis is more than just summarizing and characterizing the key findings of the included studies. It makes it possible to compare research, examine connections within the data, and evaluate the quality of the evidence. It also yields a summary of the body of information pertaining to a particular review issue that may be utilized to guide practice or policy (Lisy & Porritt, 2016).

3. Results

3.1. Study characteristics

Total 25 studies were included in the review article, out of which 7 contributed to feminization of agriculture, 12 gave insight into women empowerment and 6 articles gave evidence for both the processes. The country of study and the methodological diversity are presented in Fig. 2 and Fig. 3, respectively. Most Number of studies (11) were conducted in Nepal, followed by India (7). The review process involves studies that deals with 18 primary data and seven secondary data. The studies that derive inferences from primary data include nine studies that followed a quantitative method, four studies employing a qualitative method, and five studies that included mixed method analysis. The studies using secondary data utilise quantitative methods in five articles and mixed methods in two articles for data analysis and interpretation.

3.1.1. Analytical approaches

Methods applied to analyse data are mentioned in Table 3. Different regression methods, such as ordinary least square (OLS), binary logistic regression, pooled regression, ordered probit regression, etc., were used to delineate the factors affecting the outcome variables. Three studies (Bacud et al., 2021; Chandrasekhar et al., 2022; Fakir & Abedin, 2021) identified migration as an endogenous variable, and the endogeneity was corrected using instrumental variable regression or propensity score matching. One-way ANOVA, t-statistic, and percentage were used to

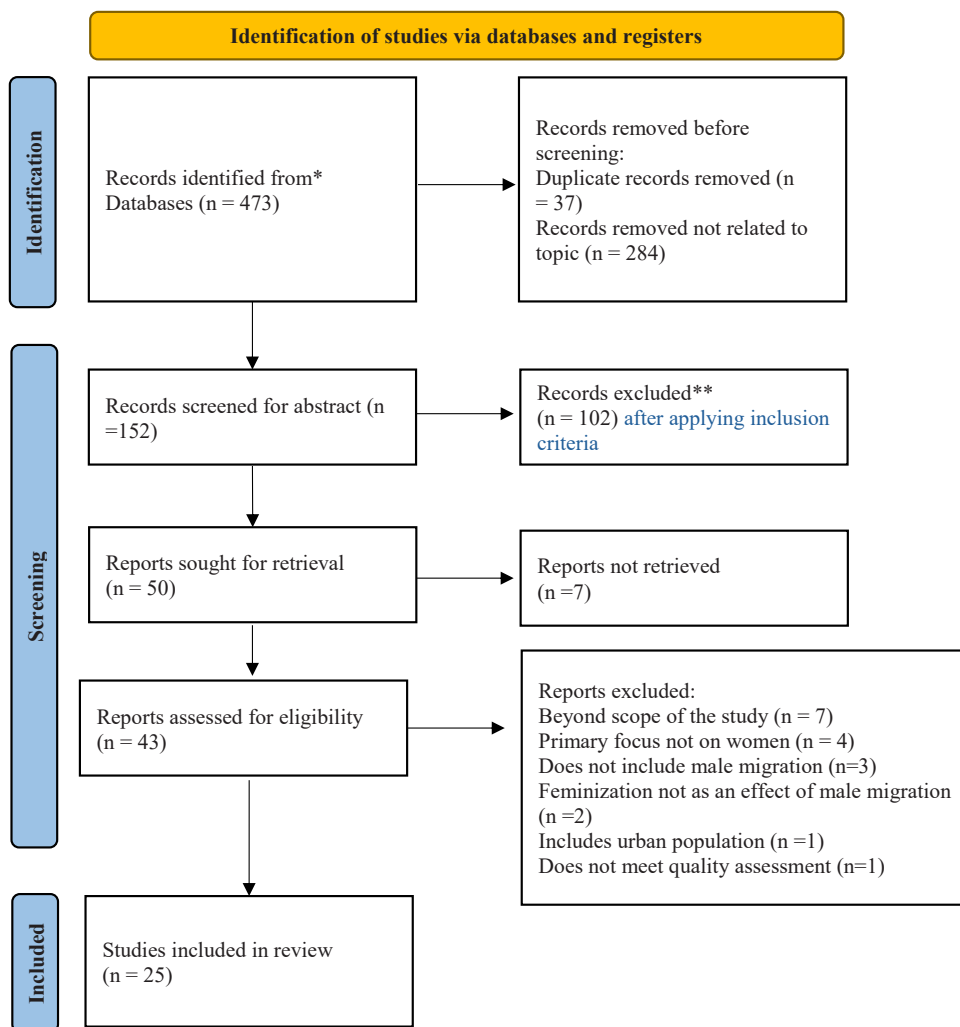


Fig. 1. PRISMA flow diagram for selection of literature following The PRISMA 2020 statement: an updated guideline for reporting systematic reviews (Page et al., 2021).

show the difference in respondent categories. Qualitative data were collected using in-depth interviews, focus group discussions (FGDs), key informant interviews (KIIs), and presented through thematic analysis, case study, etc.

3.1.2. Measurement variables

The reviewed studies present the outcome variable, Feminization of agriculture in terms of change in farm decision making and labour participation, as in the nature of participation and increase in time. Impact on farm output was verified by change in productivity or loss in profit. Empowerment was measured through autonomy in decision making, mobility, ownership of asset, workload, and freedom from domestic violence. Migration of male includes both domestic and international migration, remittance as an important factor that influence through the amount received and who has control over it. Household structure had an important influence both on feminization and empowerment process. It was observed as women part of nuclear or joint households, social position as mother-in-law or daughter-in-law or presence of older women in the family. Caste dynamics also played an important role in realising the impact of migration. Details of nature of influence of these variables observed by the reviewed studies are given Table 4.

3.2. Feminization of agriculture

In various studies the indicators for feminization of agriculture include additional agricultural activities performed by women, which were earlier done by their male counterpart, both increase in number of women and time utilized for agriculture and increased managerial or decision-making role performed by women.

3.2.1. Managerial feminization

Six studies give evidence for managerial feminization and four confirms the role of household structure in decision making ability of the left-behind women. Household position of the left-behind women is an important element, which determine the decision-making role of farm women. Those who hold de-facto household head position, exercise an increased decision-making role than women, who reside in a joint family setting (Gartaula et al., 2010; Paris et al., 2009; Rajkarnikar, 2020; Rajkumar, 2021). In extended families, the decision-making authority remain with the Parent-in-law, continuing the patriarchal structure. Chandrasekhar et al. (2022) in their study in India reported that even in case of short-term migration the farm decision making of migrant household women found to be higher than the non-migrant household women. Mukhamedova and Wegerich (2018) in Tajikistan found that due to absence of men, women assumed the new role of irrigation, tax collection and decisions regarding water use, that enabled the women to participate in the farming process as primary producer rather than an

Table 2
Article quality assessment.

ID	1st author	Year of publication	Objective clearly defined	Appropriate study design	Sampling strategy described, relevant and justified	Data collection methods clearly described and systematic	Data analysis	Total score
1	Adhikari	2015	2	1	1	1	1	6
2	Bacud	2021	2	2	2	2	2	10
3	Bhandari	2015	2	2	1	1	1	7
4	Bhawana	2020	2	2	1	2	1	8
5	Chandrasekhar	2022	2	2	2	1	1	8
6	Datta	2011	1	2	2	1	1	7
7	Desai	2008	2	2	2	1	1	8
8	Doss	2022	2	2	2	2	2	10
9	Fakir	2021	2	2	1	1	2	8
10	Gartaula	2010	2	2	2	1	1	8
11	Ghimire	2021	2	2	2	1	1	8
12	Hadi	2001	2	1	2	2	1	8
13	Koirala	2023	2	2	2	1	1	8
14	Kumari	2022	2	1	2	1	1	7
15	Leder	2022	2	2	1	2	1	8
16	Luna	2019	2	1	1	1	1	6
17	Maharjan	2012	2	2	2	2	1	9
18	Mukhamedova	2018	2	2	1	2	1	8
19	Paris	2009	1	1	2	2	1	7
20	Rajkarnikar	2020	2	2	1	1	2	8
21	Rajkumar	2021	2	1	2	2	1	8
22	Ram Mohan	2023	2	2	2	2	2	10
23	Slavchevska	2020	2	2	1	2	1	8
24	Spangler	2020	2	2	2	2	1	9
25	Tamang	2014	2	1	1	1	1	6

outsider. Caste also play an important role in decision making about agriculture. Lower caste women are more involved in agriculture decision making than the upper caste women (Rajkarnikar, 2020; Rajkumar, 2021).

3.2.2. Labour feminization

Nine studies give the evidence of increase in labour participation. Due to male migration the traditional gender division of labour is thinning. While men usually perform ploughing, hoeing, threshing; more labour-intensive work like transplanting, weeding, harvesting are performed by women. Absence of men, force women to perform the male dominated work, such as fertiliser and pesticide application, land preparation, irrigation etc. (Bacud et al., 2021; Bhawana & Race, 2020; Gartaula et al., 2010; Mukhamedova & Wegerich, 2018;). However, ploughing is still not taken up by women due to gender norms (Gartaula et al., 2010; Spangler & Christie, 2020). The share in agriculture labour does not likely to be different for women who are household head and women who live in extended families (Gartaula et al., 2010). The diversified role and active involvement of women in agriculture has led to the feminization of labour (Mukhamedova & Wegerich, 2018; Rajkumar, 2021). Male migration leads to the shortage of labour in the farm, which is compensated by the women (Bhawana & Race, 2020; Ghimire et al., 2021; Slavchevska et al., 2020; Mukhamedova & Wegerich, 2018). The additional task performed by the women leads to the drudgery and time poverty of women (Bacud et al., 2021; Spangler & Christie, 2020). How the left-behind women changes the farming practices significantly be contingent on the remittances. Households receiving higher remittance prefer to hire labour (Bhawana & Race, 2020; Tamang et al., 2014). Low remittances are mainly utilized for expenses like school fees and medical bills, as well as for savings and repayment of loans (Bacud et al., 2021; Spangler & Christie, 2020). Bhawana and Race (2020) in Nepal also found that women from Dalit castes are more involved in agriculture labour.

3.3. Farm output

Only five studies give the evidence for relation between female farm management and crop productivity. When the land holding is marginal the decrease in productivity is unlikely (Paris et al., 2009). Due to a lack

of technical knowledge of better crop management techniques, notably regarding seed quality, pest control, and fertilizer management, and limited access to new seed varieties farm managed by women suffer loss in productivity (Chandrasekhar et al., 2022; Bhawana & Race, 2020; Rajkumar, 2021). Also, multiple workload and lack of labour force women to leave the land fallow or adopt less intensive agriculture leading low food production, at local level (Tamang et al., 2014)

Development literature has repeated the story of the feminization of agriculture as an oversimplified measure of empowerment through shifts in women's work and management positions, paying little attention to the diverse livelihoods of individuals (Spangler & Christie, 2020). Due to male migration, women are experiencing socio-spatial struggle over resources (gender discrimination, caste, limited mobility), shifting power relation within and beyond the household and feeling of insecurity (Leder, 2022). On the other hand, it allows women to learn new cultivation practices, input utilisation which reduces the gendered knowledge gap and make them evolve as good managers (Spangler & Christie, 2020). Based on gender, caste/ethnicity, remittances, and household socioeconomic situation, there are effects of the feminization process on women, illustrating the idea of intersectionality (Bhawana & Race, 2020; Leder, 2022).

Based on the preceding deliberation both positive and negative outcome of the feminization process are depicted in Fig. 4.

3.4. Women empowerment

A clear consensus whether the migration process result in women empowerment is not established. Where there is an increase in autonomy, the empowering effect may be offset by the increased burden on the women. Eighteen studies discuss about the empowerment process on following aspects.

3.4.1. Autonomy in decision making

Nine studies discussed the autonomy in decision making as an indicator of empowerment. Women play a more significant role in operational decisions, like choosing crops and varieties, and a less significant role in strategic decisions, like non-farm investments. Traditional gender discrimination, in which women are socialized to follow rather than make decisions, is the reason for the restricted role that women play in

Table 3
Key findings from the literature reviewed.

S. No.	Authors	Country	Aim of the study	Data collection	Method	Major findings
1	Adhikari & Hobley, 2015	Nepal	To investigate the well-being and empowerment of women in the context of male migration.	Primary data from 321 households	Mixed method- Descriptive statistics, and qualitative interpretation	Empowerment of women is not conclusive as the major decisions are still taken by the migrant men or close male relatives.
2	Bacud et al., 2021	Vietnam	To explore the contribution of migration towards labour involvement and agency of farm women	Primary data from 578 households	Quantitative method- two-stage least squares (2SLS) regression	Male migration results in increased unpaid labour of farm women. Both labour participation and management are feminized, hence increase in the workload of migrant wives. Migrant families do not utilise remittance in agriculture and workload of the women increase due to additional responsibility.
3	Bhandari & Reddy, 2015	India	To find out the impact of male out-migration on workload of women.	Primary data from 150 households	Quantitative data Pooled regression	Households are changing significantly as a result of male outmigration, but rural communities are also changing for other reasons. The impact of feminization is felt differently by the women of different caste, class and socio-economic position.
4	Bhawana & Race, 2020	Nepal	To explore the process of feminization in the rural settings	Primary data using household survey through semi structured interviews, FGD, and participant observation	Qualitative method- Thematic analysis	The spouse of the migrant is more likely to be involved in agricultural decision making, than women in any other position.
5	Chandrasekhar et al., 2022	India	To investigate the relation between short term migration and feminization of farm management.	Secondary data obtained from NSSO's Survey on Land and Livestock Holdings including 35,604 rural households	Quantitative method- Ordered probit model, Two-stage least square regression, and OLS regression	Although male migration has improved the women's work status, decision-making, mobility and access to credit, caste and patriarchy continue to significantly influence them.
6	Datta & Mishra, 2011	India	To analyse the impact of male migration on the empowerment of women left- behind	Primary data collected from 976 households	Quantitative method- Descriptive statistics and gender module	The empowering experience of male migration is only limited to the women living in nuclear household, but they face greater workload.
7	Desai & Banerji, 2008	India	To explore the relation between male migration and autonomy and workload of women left- behind.	Secondary data obtained from India Human Development Survey 2005 (IHDS)	Quantitative method Descriptive statistics	Empowerment of women in a migrant household depends on the social position of the women within the household and caste.
8	Doss et al., 2022	Nepal	To explore the autonomy of women at the onset of male migration	Secondary data from Midline survey of Heifer International's impact evaluation (2016), key informant interview, and FGD	Mixed method- t-test, OLS regression, and Logistic regression. Qualitative interpretation	Male out-migration gives women the chance to discover and fulfill their own potential for empowerment, which greatly enhances their control over small family expenses and freedom of movement.
9	Fakir & Abedin, 2021	Bangladesh	To explore whether the migration induced change in the household headship creates pathway for women empowerment	Secondary data from Bangladesh Integrated Household Survey (2011–2012), published by the International Food Policy Research Institute (IFPRI). Survey of 558 households with primary male migrant	Quantitative analysis Propensity score matching, Instrumental Variable estimation	Feminization of agriculture is seen more in case the household, when it is female headed rather than household with patrilineal structure.
10	Gartaula et al., 2010	Nepal	To explore the effect of male migration on labour participation and decision making of farm women	Primary data collected from 1791 households	Mixed method- key informant interviews, group interviews, focus group discussions, participant observation, and ANOVA	Duration of migration and remittance have significant and positive impact on work outside home.
11	Ghimire et al., 2021	Nepal	To examine the association between migration status of husband and remittance with workload and autonomy of women.	Secondary data 1917 individual	multilevel ordinary least squares regression	Women's decision making and education of girl is significant and positively associated with overseas migration.
12	Hadi, 2001	Bangladesh	To assess the change in the position of left-behind women at family level.	Primary data collected from 1030 families	Quantitative method- Multivariate analysis, and Logistic regression	Women with transnational migrant husband live mostly in nuclear setting and make independent choices regarding their lives and children.
13	Koirala, 2023	Nepal	To study the effect of transnational migration on women left-behind	Primary data collected from women of 373 households	Quantitative method- Women Empowerment Index	

(continued on next page)

Table 3 (continued)

S. No.	Authors	Country	Aim of the study	Data collection	Method	Major findings
14	Kumari et al., 2022	India	To find out the impact of male migration on different domains of women empowerment	Primary data collected from 180 migrant households	Quantitative method- Women empowerment in Agriculture index Qualitative method	Left-behind women are adequately empowered in health care, education, and agricultural production.
15	Leder, 2022	Nepal, India, and Bangladesh	To investigate the change in gender norms and relation in the context of rural out migration.	Primary data Using 80 semi structured interview, 21 FGDs, transect walk, and participatory observation		Male out migration does not produce direct shift in the power relation between men and women. Struggle over agriculture and natural resources continued to be influenced by gender, age, ethnicity, land ownership, remittances, and social position.
16	Luna & Rahman, 2019	Bangladesh	To investigate the role of migrant wives in access to economic resources, physical mobility and independence	Primary data from 20 households, semi structured interviews, and FGD	Qualitative method- Case study	Most of the migrant wives possess bank account, but not necessarily control remittances.
17	Maharjan et al., 2012	Nepal	To find out the impact of male out-migration on the empowerment of women left behind	Primary data collected from 509 migrant and non-migrant households, FGD & key informant interview	Mixed method- Descriptive statistics, case study and time budgeting	Migration doesn't improve the access to productive resources, and the decision-making role of women.
18	Mukhamedova & Wegerich, 2018	Tajikistan	To analyse the factors affecting agricultural labour force and the process of feminization	Primary data through 60 interviews and 5 FGDs	Qualitative method- Participant observations, semi-structured in-depth interviews, and FGDs	Existing power structure and male-dominated relationships are challenged due to male out migration
19	Paris et al., 2009	Vietnam	To explore the relation between migration, livelihoods, farming outcomes and gender roles	Primary data collected through RRA, focus group discussion (FGD), Interview	Quantitative method- Descriptive statistics, and women empowerment index (WEI)	Despite the male out-migration women are able to maintain the production due to remittance received.
20	Rajkarnikar, 2020	Nepal	To find out the change in decision making role of women in the context of male migration	Secondary data using Nepal Demographic and Health Survey (NDHS) 2011. Semi structured interview of 178 women of migrant families.	Mixed Method- Qualitative data Thematic analysis, and Quantitative data OLS regression	Women who assume the role of head in the absence of husband show improved decision-making ability, but still feel hesitant about decision regarding financial matter.
21	Rajkumar, 2021	India	To study the shift of managerial role to the farm women due to male migration.	Secondary data from Indian Human Development Survey (IHDS)	Quantitative method- Difference-in-difference method with Propensity score matching	Even though the labour participation of women is increasing, managerial feminization is leading to lower farm profit owing to lesser access to input and resources.
22	Ram Mohan et al., 2023	India	To investigate change in the authority of decision making due to male migration.	Primary data from 210 households, key informant interview, and FGDs	Mixed method analysis- Multinomial regression	Young married women in joint family avoid taking decision and the final authority of decision making remain with the older member. They get involved in small decisions which can be regarded as bargained autonomy.
23	Slavchevska, 2020	Nepal, Senegal, Tajikistan	To find out the impact of male migration on labour participation and women empowerment.	Primary data. 2910 individual	Quantitative analysis, OLS regression, 2SLS regression	When male member of the family migrates participation of women in agriculture depend on the remittance.
24	Spangler & Christie, 2020	Nepal	To study how the male migration affects gendered decision making and participation of agriculture labour	Primary data using key informant interview, participant observation, FGD, semi-structured household interview of 109 individuals	Mixed method	Male migration pushes women to take new responsibilities, participation in community spaces enable women to renegotiate gender roles within and beyond households.
25	Tamang et al., 2014	Nepal	To explore the relation between feminization of agriculture and food security.	Primary data, 12 FGDs, 8 case studies, and survey of 150 households	Qualitative method	Due to absence of male women are engaging in less intensive agriculture, sometimes abandon land leading to low food production

Source: Compiled by authors

non-farm investments ([Maharjan et al., 2012](#)). Women have the authority to make decisions about health care, education, and agricultural output. When women are empowered to make decisions for their households, there is a greater chance that their children will receive an education, receive appropriate medical attention when sick, and have access to nutritious food ([Kumari et al., 2022](#)). Migrant wives have more control over the minor household expenses ([Fakir & Abedin, 2021](#); [Desai & Banerji, 2008](#)). Women, who stay separate, consult with the migrant husband and those who stay in an extended family, decision is made by

the parent-in-law. Because of the continued dominance of the patriarchal system, decisions on the acquisition and sale of assets are still made by men ([Kumari et al., 2022](#); [Leder, 2022](#); [Doss et al., 2022](#); [Rajkarnikar, 2020](#); [Adhikari & Hobley, 2015](#); [Ram Mohan et al., 2023](#)). With increase in age, educational status, duration of migration and in nuclear families, decision making shift to wife, especially for agricultural technology ([Ram Mohan et al., 2023](#)). Women belonging to lower caste and employed in agriculture seems to take more independent decision than women engaged in non-farm work ([Rajkarnikar, 2020](#)).

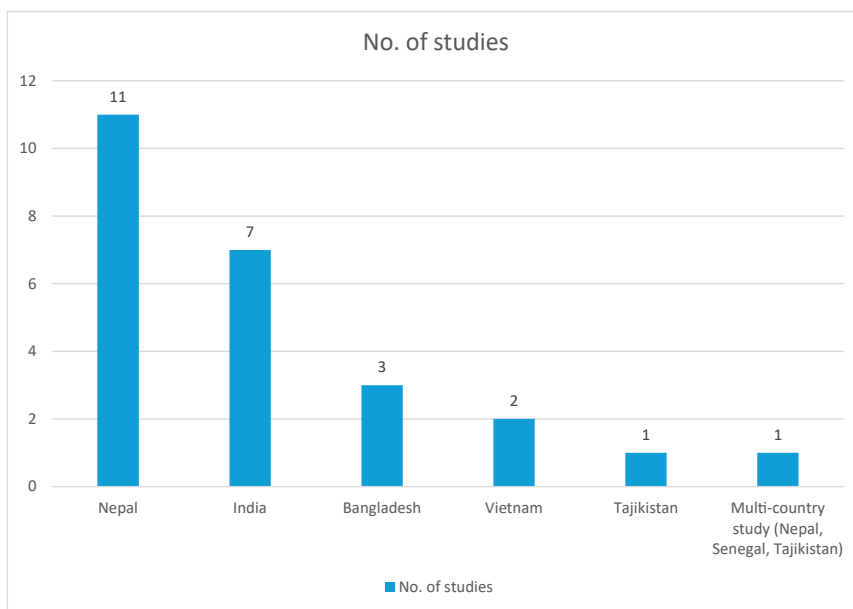


Fig. 2. Number of studies representing countries.

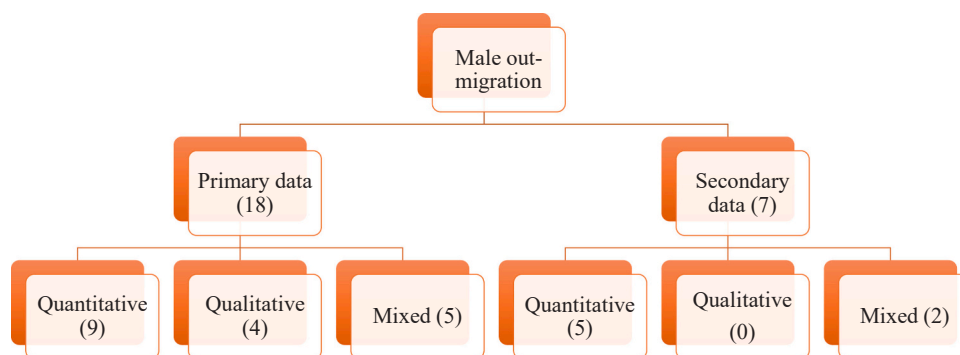


Fig. 3. Methodological diversity.

Even though having a bigger say in decisions is a sign of empowerment, women who are unable to handle these additional responsibilities, which are placed on top of an already heavy physical workload, may end up feeling even more burdened and disempowered (Maharjan et. al, 2012). These women may be able to gain greater authority in the home because of this change in the balance of power, exposure to asset ownership, decision-making skills, and household expenses (Fakir & Abedin, 2021).

3.4.2. Mobility

Eight studies describe freedom of mobility experienced by women due to migration of men. Compared to women from non-migrant homes, women from households where the primary male member migrates are reported to have a higher likelihood of experiencing greater mobility freedom (Desai & Banerji, 2008). Women may be more mobile by choice, on the one hand she no longer needs to ask her husband's permission before going outdoors, fewer household duties to complete while her partner is away. However, it is possible that women are more mobile due to necessity. It is possible that she will suddenly have to take care of duties and tasks outside the home that her husband used to do. In addition, women may need to work for pay if their migrant husbands only occasionally provide remittances (Fakir & Abedin, 2021; Koirala, 2023). In some conservative communities, male migration has significantly increased women's mobility. Lower class women are mobile to work, whereas higher class women are mobile mostly for supervising

and payment to workers (Datta & Mishra, 2011; Adhikari & Hobley, 2015). It is possible that patriarchal dominance has affected the educated women, who are primarily from the community's upper caste (Hadi, 2001; Desai & Banerji, 2008). In addition to social marginalization and poverty, women from lower castes or other ethnic groups also face disempowerment due to patriarchal norms disempowering high-caste women (Doss et. al, 2022). Members of the extended family frequently closely monitor migrant wives when their husbands are away (Datta & Mishra, 2011). Thus, especially when the women are of reproductive age, older family members frequently assume the role of protector and guardian for them and their offspring (Adhikari & Hobley, 2015).

3.4.3. Access to resources

In comparison to women from non-migrant homes, women from households where the primary male member migrates are more likely to own substantial assets entirely or jointly. Additionally, non-migrant household women are more likely to possess small value assets. Out of four studies discussing access to resources, two confirm that even though women have ownership of asset, but do not utilise them without consultation with husband. The rise in the acquisition of major assets may be predicted as women from migrant households are more willing to take on longer-term investments. But the utilisation decision for those assets is still taken by the husband even if he is absent (Fakir & Abedin, 2021, Luna & Rahman, 2019). Women frequently encounter obstacles

Table 4
Factors affecting outcome variables.

Variables	Nature of influence	Reported studies
A. Feminization of agriculture		
i) Managerial feminization		
Migration status	Positive	Bhawana & Race, 2020; Gartaula et al., 2010; Rajkarnikar, 2020; Rajkumar, 2021;
Household structure	Depends on headship	Gartaula et al., 2010; Paris et al., 2009; Rajkarnikar, 2020; Rajkumar, 2021
Caste	Women from lower caste take more farm related decisions	Rajkarnikar, 2020; Rajkumar, 2021
j) Labour feminization		
Migration status	Positive	Gartaula et al., 2010; Ghimire et al., 2021; Leder, 2022; Mukhamedova & Wegerich, 2018; Rajkumar, 2021; Slavchevska, 2020
Remittance	Negative	Bhawana & Race, 2020; Tamang et al., 2014
	No effect	Ghimire et al., 2021; Rajkumar, 2021; Slavchevska, 2020
Caste	Women from lower caste have higher participation in agriculture labour.	Bhawana & Race, 2020
B. Farm output		
Migration status	Negative	Bhandari & Reddy, 2015; Chandrasekhar and Swaminathan 2022; Rajkumar, 2021; Tamang et al., 2014
	No effect	Paris et al., 2009
C. Women empowerment		
i) Decision making		
Migration status	Positive	Adhikari & Hobley, 2015; Datta & Mishra, 2011; Desai & Banerji, 2008; Doss et al., 2022; Hadi, 2001; Koirala, 2023; Kumari et al., 2022; Luna & Rahman, 2019; Maharjan et al., 2012; Ram Mohan et al., 2023
Remittance	Positive	Hadi, 2001
Household structure	Depends on headship	Adhikari & Hobley, 2015; Datta & Mishra, 2011; Doss et al., 2022; Gartaula et al., 2010; Kumari et al., 2022; Leder, 2022; Hadi, 2001; Ram Mohan et al., 2023
Age	Negative	Hadi, 2001; Ram Mohan et al., 2023
j) Mobility		
Migration status	Positive	Desai & Banerji, 2008; Fakir & Abedin, 2021; Ghimire et al., 2021; Koirala, 2023; Leder, 2022; Luna & Rahman, 2019; Ghimire et al., 2021
Remittance	positive	Desai & Banerji, 2008; Ghimire et al., 2021
Household structure	Women in nuclear family experience higher mobility	Desai & Banerji, 2008; Ghimire et al., 2021
Caste	Positive	Ghimire et al., 2021
	Negative	Datta & Mishra, 2011; Doss et al., 2022
i) Ownership of asset		
Migration status	Positive	Fakir & Abedin, 2021; Leder, 2022; Luna & Rahman, 2019; Maharjan et al., 2012
Remittance	Positive	Adhikari & Hobley, 2015
Household structure	Nuclear household	Luna & Rahman, 2019
j) Workload		
Migration status	Negative	Bhandari & Reddy, 2015; Datta & Mishra, 2011; Doss et al., 2022; Koirala, 2023; Maharjan et al., 2012; Slavchevska, 2020; Maharjan et al., 2012;
Remittance	Negative	Bhandari & Reddy, 2015
	No effect	Adhikari & Hobley, 2015
Household structure	Women in nuclear families are overworked	Adhikari & Hobley, 2015; Doss et al., 2022; Spangler & Christie, 2020

Table 4 (continued)

Variables	Nature of influence	Reported studies
Caste	Low caste women have higher workload	Doss et al., 2022
v) Freedom from violence		
Migration status	Negative	Fakir & Abedin, 2021

Source: Compiled by authors

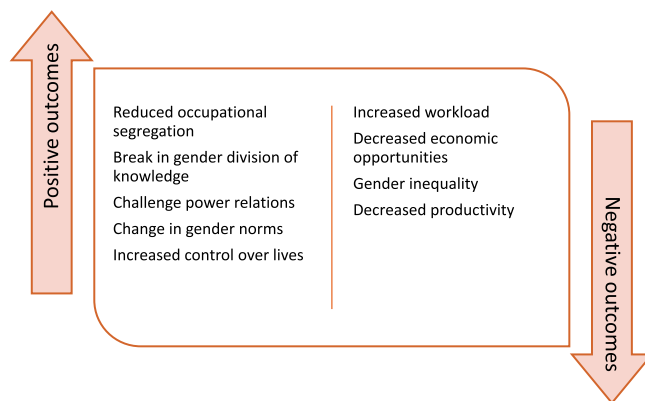


Fig. 4. Outcome of feminization of agriculture (Source: Compiled by authors).

when there are no male family members present in obtaining credit on favourable conditions as well as in gaining access to credit (Datta & Mishra, 2011). The age of migrant wives, the length of their marriage, and the structure of the family frequently determine whether they are the family's money receiver, collector, or controller (Luna & Rahman, 2019). Several migrant spouses are observed cohabiting with their in-laws in large homes. Land ownership changes are less likely to result from male outmigration. Due to the close connection between land-ownership certificates and subsidies, finance, agricultural inputs, and extension services, it can greatly affect women's access to these resources if they are the land's true title holders (Leder, 2022).

3.4.4. Workload

Five studies give evidence for workload indicator. Men tend to enjoy leisure more than women do in patriarchal countries when households can afford it (Maharjan et al., 2012). When migration of male member happens, spouses who were left behind incurred greater unpaid labour, less information availability, and psychological and emotional expenses due to their husbands' absence. (Maharjan et al., 2012; Koirala, 2023). Most of the time women internalize the heavy work expectations from them (Leder, 2022). This work burden is higher for the women living in nuclear families (Adhikari & Hobley, 2015). While examining the impact of social location on workload Doss et al. (2022) found that in comparison to wives and mothers-in-law, daughters-in-law devote more of their time to domestic and caregiving tasks and less to productive non-domestic work.

3.4.5. Freedom from domestic violence

Only one study discusses the freedom from violence because of absence of man. Women, who live in households where the principal male is migrant, is less likely to experience domestic abuse from their own family members. The obvious explanation for this is that when a husband is gone from the house for a prolonged length of time, women are less vulnerable to abuse of any kind from their spouse. On the other hand, it has been observed that women from non-immigrant homes are more likely to experience domestic abuse at the hands of their husbands, a finding that confirms patriarchal dominance (Fakir & Abedin, 2021).

The study demonstrates how the influx of foreign remittances and

secular ideals has the power to seriously alter gender roles and damage patriarchal structure. It is anticipated that some of the secular values adopted will endure in the future, even though it is quite probable that the new position will not be maintained once their spouses return. The extent to which the social and behavioural dimensions of migration impact women's status will vary, and it is contingent upon the specific circumstances (Hadi, 2001).

As we discuss the impact of male migration on women empowerment challenges faced by the left-behind women are given in Fig. 5.

4. Discussion

4.1. Feminization of agriculture

The conventional understanding of the feminization of agriculture is that an absence of men has led to a rise in the number of women working on farms and in managerial positions. This rise needs to be carefully considered (Slavchevska et al., 2019). A closer look at the feminization of agriculture is necessary to uncover the structural changes in rural households and gender dynamics at play. The findings of the present evaluation show how household structure, and caste regulate the managerial feminization in the event of male outmigration; however, it unveils how the labour feminization is influenced by the caste and remittance availability that is triggered by male outmigration. The social aspects of gender, including the allocation of resources, authority, and duties between men and women in society is focused through gender and development approach (Cornwall & Rivas, 2015). This becomes particularly pertinent when rural livelihoods are altered by male migration, leaving women to assume more domestic and agricultural duties while still dealing with structural barriers to land ownership, financial availability, and decision-making participation (Stanley, 2015). As conventional roles are altered by male migration, intra-household power dynamics change (Setrana & Kleist, 2022). One of the factors actively contributing to discrimination against women who are left behind is family dynamics. If there is no male head of the household, the spouses left behind in extended houses can only exercise

their agency (Desai & Andrist, 2010; Hena & Jahan, 2021). The studies under present evaluation show that women are taking on more managerial responsibilities, especially in families where they are the de facto heads. Intra-household bargaining indicates the negotiations and decision-making that take place within a home when members with different preferences, bargain about how to share resources and make decisions (Agarwal, 1997; Richards et al., 2013). Therefore, managerial feminization needs to be understood in the context of the negotiated and situational character of family power relations rather than as empowerment in and of itself. This complexity is further reinforced by the differences in management control between caste groups. There is evidence to support the idea that lower-caste women make more decisions due to both economic necessity and a lack of social pressure to adhere to upper-caste gender norms, which may give them more autonomy (Debnath, 2023).

Remittances, labour withdrawal, and gender dynamics in agricultural operations influence agrarian developments (Nisingizwe, 2019). Agricultural production and women's empowerment can be enhanced by successful migration and good remittances; however not all male outmigration is effective. In many countries, the costs of migration are rising in comparison to the benefits, and in many situations, women may bear a disproportionate amount of the costs. They must contend with the loss of physically capable labour as well as possible financial expenses associated with the attempted migration (Yabiku et al., 2010). Due to their employment in lower-paying, unorganized sectors, migrants who are primarily defined by poor "human capitals" fall into the category of unsuccessful migrants. As a result, they are unable to pay their city living expenses and save enough cash to send home. Since the labour force shortfall caused by their absence is not adequately compensated, which has a negative impact on agricultural production in their homes. Due to insufficient remittances, unsuccessful migrants' families choose to reduce output by purposefully cultivating a small number of crops or by leaving some fields fallow (Nisingizwe, 2019).

In India, most women from landless households worked outside the home as maids, wage workers, agricultural labourers, etc., and they received a small range of migrant remittances. Being less socially bound, women from scheduled castes and tribes worked more in agriculture. On the other hand, women from forward caste houses only work as maids (Debnath, 2023). In Nepal, the households, where men are away, face the issue of lack of timely availability of labour and high labour cost. This eventually leads to reduction in rice production and push the households to consume less preferable food such as maize (Kim et al., 2019). According to Pandey (2021), Nepalese women headed households produce less food due to higher workload and limited access to resources; thus depend on remittance to buy food, and become more food secure in terms of consumption. Obi et al. (2020) in Nigeria also confirm that households receiving remittances are less likely to adopt unhealthy coping strategies, such as eating less nutritious food, and are also less likely to worry about fulfilling household food needs owing to lack of money, even though they do not significantly boost dietary diversity.

Women, who face greater workload in the reproductive and productive domains and shoulder both responsibilities may withdraw from agriculture (Pattnaik & Lahiri-Dutt, 2022). In times of food crises, remittances not only level out consumption but also put households in a better food security equilibrium. Impacts on food security are not immediately evident, but it is likely that low-income families headed by women and receiving little to no remittances will be at food security risk (Choithani, 2020). Thus, the left-behind women as farm managers become the significant actors in the migration-food security nexus.

The study contributes to relevant evaluation frameworks by challenging and expanding the conventional understanding of feminization in agriculture, emphasizing the need for more focused and intersectional approaches. Rather than equating feminization solely with an increased number of women in agricultural roles due to male outmigration, the study highlights the importance of examining the structural and socio-

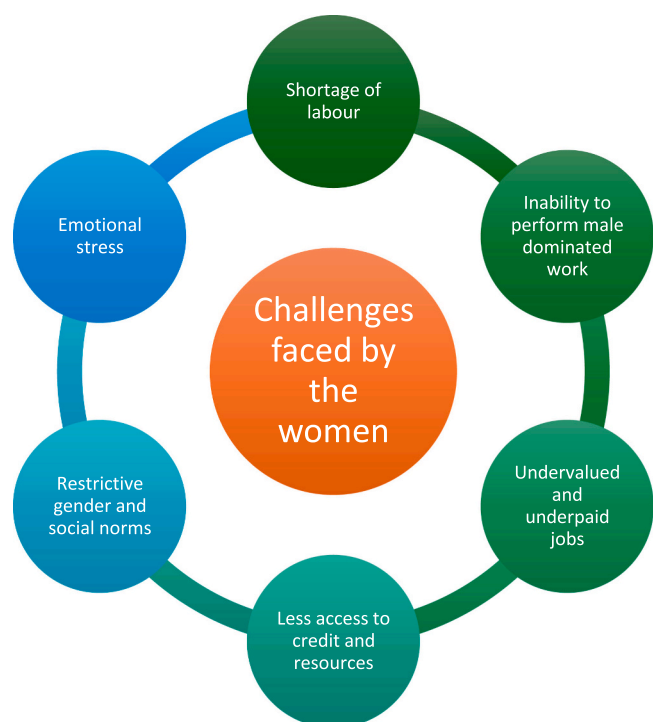


Fig. 5. Challenges faced by women due to male migration (Source: Identified by authors).

cultural dynamics—such as caste, household structure, and remittance availability—that shape both labour and managerial feminization. By incorporating a gender and development lens, the study foregrounds how power, resource allocation, and decision-making are negotiated within households, particularly in the absence of male heads. This calls for evaluation frameworks that move beyond simplistic indicators of women's participation to include intra-household bargaining, social norms, and differentiated impacts across caste and class. Moreover, the findings encourage evaluators to critically assess managerial feminization not as a uniform marker of empowerment, but as a context-dependent outcome influenced by family dynamics, economic pressures, and societal constraints. Thus, the study enriches evaluation criteria by promoting a more comprehensive, intersectional, and socially grounded assessment of gender roles in agriculture.

4.2. Empowerment of left-behind women

The reality of gendered roles and cultural expectations within migrant families presents many difficulties, but migration process can also change normative gender roles, causing most left-behind women to take new roles and responsibilities on top of their social responsibilities (Kaur, 2020). Women gradually learn to deal with reality by strengthening their autonomy and empowerment, even though these life adjustments can be difficult for them (Fernandez-Sanchez et al., 2020).

Decision-making autonomy is frequently regarded as a key sign of women's empowerment. Yet, a feminist theoretical perspective, particularly as expressed by Kabeer (1999), empowerment involves more than just having the ability to make decisions; it also entails making significant decisions in social circumstances where such authority was previously lacking. Present evaluation regarding the impact of male migration on the empowerment of left-behind women indicates an increased autonomy in decision making, access to resources, and mobility; however, the extent of empowerment depends on the household composition. According to the examined research, women participate more in operational decisions but are not included in strategic ones, which can be regarded as "bounded agency." Even though women in migrant-sending communities really shoulder more duties, many of them nevertheless try to keep up some level of cooperation with their men, seeking shared tasks and lives. Although migrant men rarely disagree with women's choices, the consultation process guarantees men's involvement and interest in the home (Raj et al., 2025). State gender equality programs begin with a list of "deficits" rather than a positive construction of women's resources, identity, abilities, knowledge, and relationships. The fact that women's agency is frequently focused on creating shared rather than independent lives—particularly regarding resources and their daily battles for survival—is not recognized by them (Rao, 2017).

The increase in women's mobility is often framed as a positive indicator of empowerment. Even with greater mobility and involvement, many women still experience social control and censure for deviating from conventionally expected gender roles. The tension between changing gender practices and enduring hegemonic masculinity is reflected in this circumstance, according to Connell's theory of gender relations (Connell, 1987). In Mexico male migration has allowed the women to learn new tasks and opportunities which gives them the opportunity to be present in different social groups. The freedom in mobility can be empowering to women but draws criticism over morality (McEvoy et al., 2012). The mobility constraints faced by the women reduce with increase in age, marital duration and educational status rather than the migration status of the husband (Sinha et al., 2012).

Most empowerment frameworks, such as WEAI and the Gender Asset Gap Project, place a strong emphasis on asset ownership. However, the present study indicates a significant discrepancy between actual control and legal/formal ownership. Even when they are physically away, male household members frequently retain power. In India, women farmers

with the land titles have access to recently announced agricultural programs like the National Mission on Agricultural Extension and Technology. The majority of the "left behind" women covered in this study, who de facto run all agricultural activities on their smallholdings but do not have official land titles, obviously excluded from this (Raj et al., 2025). These findings are consistent with Sen's capabilities approach, which holds that empowerment is primarily based on agency rather than functions alone. Capability Approach of Amartya Sen (1999) moves the emphasis from resource ownership or economic involvement to the flexibility to attain well-being. The term "capabilities" describes people's actual freedoms, or what they can do and be. Though frequently limited by patriarchal gatekeeping, women's capacity to autonomously mobilize, obtain loans, and make agricultural decisions must be viewed as a sign of their extended capabilities. In terms of methodology, research on asset ownership frequently use self-reported data, which might not differentiate between substantive and symbolic ownership. A more thorough approach would separate asset data according to de facto and de jure ownership and include qualitative research on interspousal asset distribution, control, and use. Research must go beyond recording the state of labour today to comprehend shifts in resource control and decision-making (Slavchevska, 2016).

Present evaluation observes the differential workloads for the left-behind women in migrant family that depends of their family position; work burden is higher for the women living in nuclear families. Insufficient remittances from the male migrants compel left-behind women to engage more in diverse works to overcome the financial hardships (Islam et al., 2025); thus, they may not feel empowered. The women mostly engage in the low-skilled and labour-intensive wage work on commercial farms, where administrative roles are usually occupied by men (Doss et al., 2018). New positions for women are frequently the result of need rather than choice. They are frequently expected to provide unpaid care in their domestic fronts while also engaging in the productive role as labour adding to their workload, which results in time poverty and psychological stress (Chant, 2008). These results are consistent with criticisms of the relationship between migration and development, which warn against considering migration as essentially developmental without considering the gendered costs of labour and care. One of the most important policy imperatives is the gathering of high-quality, time-series, sex-disaggregated data on agricultural production and labour. Statistics on women's employment in agriculture need to be broken down not only by sex but also by the type of agricultural work. This will provide a more accurate picture of the variety of activities that women engage in, including work on the family farm and wage employment, whether the wage employment is temporary or permanent, the returns from each activity, and the amount of time spent on each activity. To better track changes in women's status in agriculture and their welfare over time, comparable cross-country statistics are required to identify global trends (Slavchevska et al., 2016).

Existing research, although narrowly focused, indicates that women in families impacted by male outmigration may see a decrease in intimate partner violence, mostly because of the physical absence of men who may otherwise perpetrate abuse (Jayasuriya et al., 2011). However, other types of control, particularly from extended family members like in-laws, might continue or even worsen when the male partner is not there, thus the absence of intimate partner violence should not be equated with empowerment (Panda & Agarwal, 2005). In the context of migration, when the decrease in physical abuse may coexist with emotional strain, monitoring, and other gendered constraints that continue to define women's daily lives, these findings highlight the need of comprehending how power and vulnerability are shifted in a migrant's family.

To understand complex social processes due to male migration, most of the researchers have followed mixed method approaches, qualitative case studies, and quantitative methodologies. Women are able to take on new positions because of male migration, which changes the gendered terrain of power and work, but only within patriarchal and unequal

systems. Not all women profit equally as intersectionality theory (Crenshaw, 1989) reminds us. Intersecting identities such as gender, caste/ethnicity, kinship, age, and economic status limit women’s access to economic resources. Taking the intersection of these factors along with male migration will help to create target measures to promote gender parity (Shrestha et al., 2023). The propensity to view women as a single, homogenous group frequently masks the diverse experiences influenced by caste, household dynamics, and remittance movements (Ullah & Chattoraj, 2023). Studies that emphasize intersectionality show how these interrelated elements have a significant impact on decision-making autonomy, labour market participation, and resource access. This necessitates the use of more sophisticated evaluation frameworks that can account for the various, overlapping types of disadvantage that rural women face because of male out-migration. To analyze these changes, feminist political ecology offers a crucial framework. In addition to intersecting with other axes of power like class, ethnicity, caste, and marital status, it asserts that access to and control over environmental resources (land, water, and labor) are strongly gendered (Mollett & Faria, 2013; Elmhirst, 2015).

The present study enriches existing empowerment evaluation frameworks by highlighting the complexity and contextual variability of empowerment among left-behind women in migrant households. While established frameworks emphasize decision-making, resource access, mobility, and asset ownership, this study underscores the importance of differentiating between formal and substantive empowerment. It does so by revealing the persistent gap between legal asset ownership and actual control, and by showing how women’s agency often operates within the constraints of "bounded agency" and patriarchal oversight, even in the absence of men. The study moves beyond static indicators to emphasize the relational and negotiated nature of women’s empowerment, as well as the role of "shared lives" over individual autonomy. It also offers an important corrective to the overemphasis on economic participation by illustrating how women’s expanded responsibilities often stem from necessity rather than choice, leading to increased workloads, time poverty, and psychological stress. Furthermore, it calls for a reorientation of empowerment metrics to incorporate qualitative assessments of agency, interspousal power dynamics, and the emotional dimensions of empowerment, alongside disaggregated time-use and labour data. In doing so, the study not only identifies the limitations of existing frameworks but also offers concrete methodological and conceptual recommendations for their refinement.

The links between the male out-migration in rural households, feminization of agriculture, and empowerment of left-behind women are

depicted in Fig. 6. It is evident that male migration is adopted as a strategy to diversify farm income that results in the loss of labour and change in the gender role at the origin. Nature of feminization of agriculture and women empowerment both gets influenced by remittances. Feminization of agriculture may result in decrease of farm productivity and increased drudgeries of farm women. The empowerment experience of women can be felt differently by the women living in different household structure.

4.3. Limitations

Although the present review tries to present the result by screening the relevant literature using robust methodology, we acknowledge some limitations that are present in the study. Even though migration is a global phenomenon, the studies from Asian countries, representing 40 % of global migrants, were included for the review process and the literature was restricted to publications in English language. Eighteen out of 25 studies were from only two countries i.e., Nepal and India, which might not give the entire picture of social change; especially when the feminization and empowerment of women is very context specific. The quality assessment of the screened articles could only be possible based on the information submitted by the authors and could not be triangulated. The migration left-behind, includes elderly parents and children along with the spouse of the migrant and get affected by the absence of family member in different ways which is not dealt in the study. The effect of migration was studied in terms of increased participation of women in agriculture. Autonomy of women at an individual level was studied and the change that is happening for rural society was not considered. The present study fails to capture the return migration scenario from the literature review, where conflict may arise because agricultural labour roles need to be renegotiated when migrants go back to their home, and women are typically at a disadvantage throughout this process (Baada & Najjar, 2020; De Haas & Van Rooij, 2010). Hence, in long term whether the women will be able to be benefited from the changed role is debatable.

4.4. Lessons learned

A knowledge gap in male migration and the feminization of agriculture arises from the intricate, sometimes oversimplified dynamics of gender roles and agricultural practices. Although women’s participation in agriculture is often associated with male outmigration, the real picture varies greatly depending on the context. Even if the number of

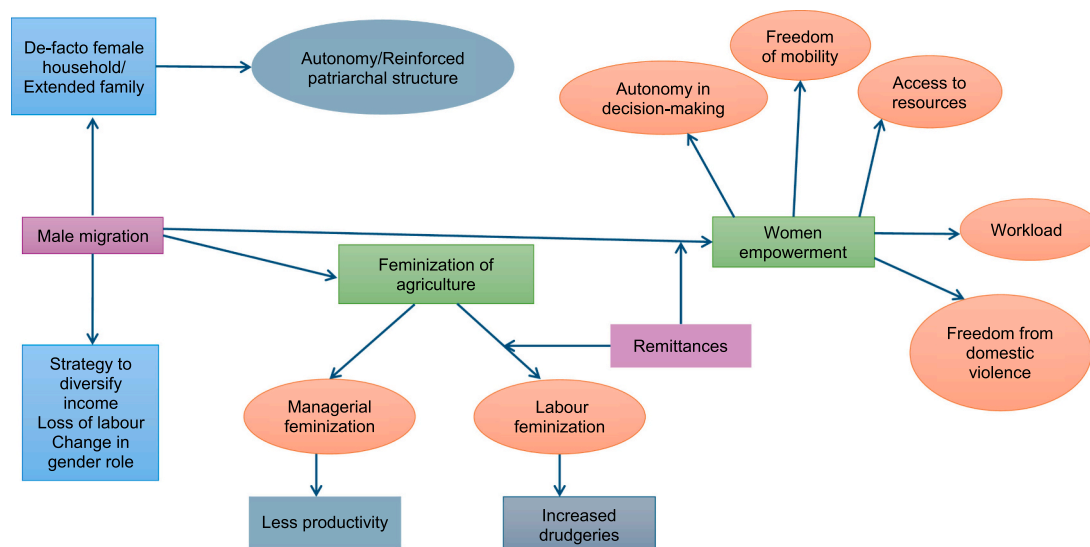


Fig. 6. Nexus between male out-migration, feminization of agriculture & women empowerment (Source: compiled by authors).

women in farming is rising, their positions are still limited by traditional gender conventions, suggesting that the process of feminization is not simple. In societies influenced by male outmigration, the feminization of agriculture is a multifaceted and non-linear phenomenon that is influenced by intra-household power relations, caste and class dynamics, and remittance flows. Because of this complexity, program and policy assessments must change the way that decision-making, labour involvement, and the empowerment process are evaluated, understood, and used.

The present study provides important insights for international evaluation community studying migration and its gender consequences, which are specified below:

1. Position of left-behind women within the household—as wives, daughters-in-law, or de facto heads—has a significant impact on the decision-making power of women. Evaluators ought to use instruments that record relational freedom of choice, intra-household bargaining, and the impact of male members who are present or absent. The evolution of migration-induced power shifts over time, especially with the return of men, can be better traced using longitudinal methods.
2. The way that intersecting identities—caste, ethnicity, age, marital status, household position, and class—mediate the effects of male migration and agricultural development must be taken into consideration in evaluation designs. The results emphasize how crucial it is to gather and analyse data in a disaggregated manner in evaluation practices to prevent the experiences of women from being reduced to uniform categories.
3. Although the growing number of women working and managing in agriculture is frequently interpreted as a sign of empowerment, the present study highlights the drawbacks of this simplified perspective. Increased agricultural responsibilities are frequently the result of necessity rather than opportunity. To capture changes in power, autonomy, and well-being, evaluators must shift toward agency-centred frameworks.
4. Women's agricultural responsibilities and autonomy are affected differently by remittances as a resource flow. Evaluation frameworks must include information on women's abilities to use remittances on their own along with their access to them.
5. Many times, the time poverty and psychological stress arising due to the additional workload not obvious in program evaluation. Time-use surveys and qualitative instruments should be used by evaluators to record hidden costs and trade-offs, especially for women from lower castes and those in nuclear households.
6. Different domains—decision-making, mobility, asset control, workload, and violence-freedom—have different empowerment processes. Women may become more independent in one area while regressing in another. Evaluations must therefore use multifaceted empowerment models that are based on local contexts. Furthermore, empowerment needs to be viewed as a process that calls for ongoing evaluation and modification rather than a final goal.

5. Conclusions and recommendations

The feminization of agriculture is now visible and rising due to absence of male from the farm. It is resulting in the evolving gender roles of left-behind women. As the traditional gender division of labour is thinning, women are stepping into multifaceted roles within the agricultural domain. The feminization is not only happening as increased participation of women as labourers, but also resulting in their increase in managerial roles. The consequences of this feminization trend are twofold. On the one hand the reduction in farm output is evident, along with increased workload of women. The resultant managerial feminization is testimonial to the newfound agency for women in shaping their abilities. Furthermore, the diversified income as remittance has resulted in the financial upliftment of these households and autonomy of these

women. The increase in mobility also allows them to learn new farm practices. However, the newfound empowerment has its complexities. While the decision-making and financial autonomy increase, so does the workload. The contrast of increased decision-making ability with the larger responsibilities explains the nuanced nature of empowerment in the context of rural households affected by male out migration.

The preceding discussion suggests that the landscape of agricultural practices and access to resources is undergoing significant change due to the male out-migration. This explains the need to reevaluate the discourse on the “Feminization of agriculture;” which primarily focus on the sex disaggregated differences in decision making, labour roles and resource ownership. It is essential to go beyond the role of gender in agriculture and consider different social relations at play. By doing so, we gain a deeper understanding of how caste, class, age and social position intersect with gender and shape the experience of individuals. Contrary to the existing belief that increased managerial ability enhanced the empowerment of the left-behind women, the evidence suggests that there are no drastic changes in the lives of women due to male out-migration.

Following recommendations are suggested:

- Since remittance is an important factor that influence the wellbeing of left-behind women, they need to be educated on financial literacy and entrepreneurship to better utilise the economic resource.
- Expansion of access to financial services like microcredit and microfinance is to be ensured for left-behind wives.
- Trainings are necessary on the use of technologies that can result in efficient input management and usage, lower input costs, and increased profits to all women farmers, but especially to women heads of households and de facto farm managers.
- Improvement of rural infrastructure is vital to support markets, connections between rural and urban areas, and non-agricultural employment in rural areas.

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