Article

Are Young Rural Women Abandoning Agriculture in Sri Lanka?

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Abstract

Sri Lankan youth are abandoning small-scale agriculture at an alarming rate. Rural youth are similarly at relatively elevated risk of underemployment and/or unemployment compared to urban and estate sectors. As a result, a considerable number of youth have diversified predominant agricultural livelihoods or migrated in search of better economic opportunities, particularly in the domestic urban sector or abroad. Due to the sheer uneven gender distribution of youth in the population, gender-based evaluation of influences on livelihood choice-making by young men and women was the purpose of this paper. A nationally representative sample of rural youth was extracted, and a multinomial logit model under a random utility framework was estimated to assess livelihood diversification. A probit model of migration outcome was estimated to assess the rural youth's choice of migration. Results revealed that female youth's preferred choice of livelihood being agriculture would be less probable and more likely to be anything other than agriculture. Education is an upward driver in the choice of urban paid work, whereas educated young rural females do not choose agriculture. Rural young women are less prone to migrate; nonetheless, married female youth have a strong proclivity to migrate. Moreover, increased access to agricultural land lessens the propensity of rural young women to migrate.

Keywords:
rural youth, gender inclusivity, women empowerment, youth livelihood decisions, agriculture, youth migration

Introduction

Agriculture is one of the prominent livelihood strategies available for rural youth in Sri Lanka; nevertheless, they are less likely to pursue agriculture in the contemporary world (Samaraweera, et al., 2019). In contrast, recent policy initiatives such as the Overarching Agriculture Policy (draft) of 2019 aim to attain agricultural self-sufficiency in Sri Lanka. Policies supporting agricultural self-sufficiency could alleviate the country's progressively expanding balance of payments (Sanderatne & De Alwis, 2014). Therefore, an optimal combination of factors of production would support the country's attempts to increase agricultural output. Among the numerous factors of production, labour is a crucial element in determining the sector's level of production and productivity.

Cost of labour are one of the most significant cost considerations in the country's agricultural sector, as agricultural wage rates have risen dramatically in recent decades (Karunagoda, 2004; Thibbotuwawa, et al., 2015; Central Bank of Sri Lanka, 2021). Existing theories such as the theory of equalising differences (Rosen, 1983) suggest increased wages would attract potential workers to the sector until the wage rate reaches equilibrium wage rate. However, recent figures illustrate that non-agricultural employment has grown faster than agricultural employment during 2006-2014 in Sri Lanka (Asian Development Bank, 2017). The employed population in agriculture declined annually by an average of 1.15% during 2013-2019 (Department of Census and Statistics, 2016; 2017; 2018; 2019). In other words, 91,284 people yearly depart from agriculture in Sri Lanka. The scenario indicates a shift in employment from agriculture. This situation encouraged the rural youth to migrate from the rural sector to the urban sector within the country as well as internationally influencing labour supply dynamics (Samaraweera, et al., 2019).

Nevertheless, the flow of labour from rural to urban sectors is theoretically inevitable with the structural transformation that merges complementary to economic development (Lewis, 1954). The tradeoff between agricultural labour and other sectors is immense concerning the domestic economic performance and labour market structures. With a gradually declining labour force participation rate in agriculture, there is no straightforward process to cater for any sudden rise in labour demand that will emerge with recently introduced regulatory measures such as mandatory cultivation of abandoned paddy lands. Evidence of the former was found relating to cultivation seasons (Arunatilake, 2018) In some cases, illegal migrants from India were employed as agricultural workers during seasons (Dawn, 2007). There is no straightforward legal process for foreign migrant workers to be employed in the domestic agriculture sector. Therefore, to cater the prevailing and potential surge in agricultural labour demand, youth participation in domestic agriculture is critical.

Recent research indicates that the youth of the rural labour force are reluctant to choose a profession in agriculture (Samaraweera, et al., 2019). Rural youth demonstrate livelihood diversification by moving away from farming and into various occupations such as off-farm wage work, off-farm self-employment, and urban-salaried work (Hussein & Nelson, 1998). Youth would need to go through an economic decision-making process (Lovreglio, et al., 2015) to determine their preferred livelihood. Nonetheless, the autonomy of young people's decision-making is influenced by numerous factors apart from their demographics, particularly of rural women.

The DCS estimated that 52% of the population in Sri Lanka were females in mid-2019 (Department of Census and Statistics, 2020). Unemployed and economically inactive women make up a substantial pool of labour in the rural sector (Samaraweera, et al., 2019). Out of the total employed rural population in 2016, only 33.6% was women. Consequently, from 2016 - 2019, the economically inactive population in the rural sector comprised more women than men (Department of Census and Statistics, 2016; 2017; 2018; 2019). Hence, attracting more women into the labour force is essential, especially young women (Department of Census and Statistics, 2012). Nevertheless, the preponderance of the unemployed and economically inactive individuals fall between 15 and 29 years old (DCS, 2016; 2017; 2018; 2019). For instance, in 2016, the percentage of young women employed was significantly low (16.5%) than their male counterparts (35.6%) (Department of Census and Statistics, 2016).

Despite these macro-level statistics, specific information on rural young women to move away from agricultural employment or reasons for their economic inactivity is limited at present. Furthermore, seeking avenues for diverting rural young women as a prospective labour pool for productive purposes aligns with national policies.. The socio-economic causes drove them to remain idle in a transforming

economy and not adopt predominant employment choices such that agriculture or decisions on migration are yet to be revealed. Therefore, this study is designed to assess the influential factors of rural young women's employment choices and their choice of migration in realising their economic empowerment and promotion of gender inclusivity in employment decisions.

Literature review

Decision-making is an extensively researched topic within various disciplines such as economics, applied statistics, organisational behaviour, and industrial/organisational psychology (Holton & Naquin, 2005). Individual decision-making is the subject of a considerable body of theory and a few studies developed by economists and psychologists. (Edwards, 1954). The existing theories and literature can be classified into three distinct categories: normative (or prescriptive), behavioural, and naturalistic (descriptive) (Beach & Connolly, 2005).

Normative or prescriptive decision theory presents ideal models of decision-making processes that are believed to lead to optimal decisions (Holton & Naquin, 2005). Generally, normative theories assume that decision-makers strive to do what is best while providing the optimal payoff (maximum benefits or minimal loss) for themselves or their organisation (Beach & Connolly, 2005).

Behavioural decision theory focuses on subjective probability and utility (Gilligan, et al., 1983). Behavioural decision theory also uses normative decision-making models, but differently (Holton & Naquin, 2005). The naturalistic decision theory focuses strictly on observations of what decision-makers do ("naturally") as opposed to theorising what they should do (Holton & Naquin, 2005). The need for practical knowledge about real-world decision-making is the driver of naturalistic theory (Beach & Connolly, 2005)..

The theory of riskless choices is a prominent economic theory of decision making which is assumed that the person who makes any decision to which the theory is appliedcan be considered as an economic man (Edwards, 1954). According to Edwards (1954), the theory recognises three essential characteristics of an economic decision-maker: plentily informed, infinitely sensitive, and rational.

Economic decision making is a process of expected utility maximisation by an individual or household (Gramm, 1975; Eisenhauer, 1995; Aleskerov, et al., 2007). Economists believe that individuals' choices can be evaluated since those decisions were restricted to constraints (Krugman & Wells, 2004). Economic individuals' rationality is presumed and associated with utility maximisation (Gauthier, 1975). Thus, studies that utilised utility theory and utility maximisation to model the individual or household decision making assume the rationality of the decision-maker (Simon, 1986; Simon, 2000). Herrnstein et al. (1993) investigated several sources of human decision-making suboptimality and discovered that "melioration" affects individual economic decision-making. Melioration is the process of selecting the alternative with the highest current utility yield from a group of alternatives (Herrnstein & Vaughan, 1980). However, the process is often characterised by an inability to consider the implications of present decisions on future yields (Herrnstein, et al., 1993). Gauthier (1975) argues that an economic individual is motivated by the desire to maximise utility. As far as economic decision-making is considered, the random utility framework is the most widely utilised theoretical framework/paradigm for assessing discrete choices during the last 50 years (Lovreglio, 2016). Walker & Ben-Akiva, (2002) used the random utility framework to model a decision maker's choice among a set of mutually exclusive alternatives.

According to Read (2007), the utilitarian approach for modelling decision making incorporates that individuals desire things to maximise their utility, where positive utility corresponds to pleasure, and negative utility corresponds to suffering.

As far as the women and their economic decision making is concerned, most of the prior sociological work has concentrated on the effects of employment on women, their children, their families, and the community and society as a whole (Rallings & Nye, 1979). In addition. Role conflict, home environment quality, and other effects of work on working moms' families have also been studied (Rank, 1982). These studies were based on a variety of theoretical approaches, including resource theory (Blood Jr & Wolfe, 1960), conflict theory (Whitehurst, 1975; LaRossa, 1977), symbol interactionism (Turner & Osis, 1970), and social exchange theory (Safilios-Rothschild, 1976). Rank (1982), examining the impacts on married women's job decisions, discovered that the higher the individual's resources compared to their spouse's resources, the greater the influence that individual has on female employment decisions.

Evidence suggest that economic decision making by women influences livelihood diversification in rural areas (Hussein & Nelson, 1998); however, livelihood options available for these women are less compared to men (Ellis, 1998). Livelihood diversification is defined as the process by which rural households build a varied portfolio of activities and social support capacities to survive and enhance their standard of living; however, it may be interpreted in a variety of ways (Ellis, 1998). Diversification of livelihood is characterised as a matter of survival in the examined literature, which emphasises the causes for diversification as desperations such as poverty and a lack of asset holdings, among other things. Livelihood diversification, on the other hand, is regarded as an option and opportunity for households seeking to enhance their living conditions (Ellis, 2000). The livelihood diversification is for survival, and livelihood diversification is for accumulation may be separated based on the following facts (Ellis, 1998; Hart, 2008). Rural livelihood diversification has evolved as a survival strategy, despite the fact that it contradicts traditional rural livelihood accounts. The growth of sectors, specialisations, and transitions are, therefore, factors that contribute to livelihood diversification (Ellis, 1998).

Economic research has identified numerous kinds of revenue sources based on various income portfolios. Seasonality, sustainability, entrance obstacles, location, potential income growth, and other factors all weigh into the divisions (Barrett, et al., 2001). Farm, non-farm, and off-farm income sources have been recognised as three significant groups in income diversification (Saith, 1992). According to Saith (1992), farm income is composed of income made through the sale of the farm's agricultural and livestock output and expenditure on the farm's products. Off-farm income is the sum of the wages received for labour performed, and the labour exchanged. Thus, it includes the types of labour payments found in developing countries, such as the harvest share system and other non-wage labour contracts. Non-farm income is revenue earned from sources other than agriculture. Ellis, (1998) revealed that this form of non-farm income comprises non-farm rural wage employment, non-farm rural self-employment, property income, urban to rural remittances, and overseas remittances.

Experience or age, education level (Samaraweera, et al., 2019), social standing, training, asset holding, access to financing, rural infrastructure, agro-climatic condition, and overall economic growth in the region have been highlighted as the primary drivers influencing livelihood diversification in rural areas (Bezu & Holden, 2014). Nonetheless, a number of obstacles prohibit rural communities from diversifying their livelihoods (Samaraweera, et al., 2019). One of the most critical drivers of lifestyle diversification is asset ownership (Bezu & Holden, 2014). Consequently, families with little resources are incapable or appear vulnerable to diversification due to the imposed entrance barrier resulting from a lack of resource ownership (Samaraweera, et al., 2019). As evidenced by empirical studies,

several variables influence livelihood choices in rural areas; consequently, focusing on a clearly separable single component will overlook the numerous underlying determinants that are inherently separate. Seasonality, labour markets, risk, coping, credit, accumulation, and other factors of livelihood diversification in rural regions may appear to be distant, yet they are inseparable and essential determinants (Berry, 1989).

The literature on migration offers fascinating insights into the realities that influence livelihood diversification. Individual preferences, as well as intertemporal family contracts, have been examined in migration decisions (Todaro, 1969; Harris & Todaro, 1970; Stark & Lucas, 1988). Individual migration decisions are influenced by income disparities adjusted for job search possibilities (Bigsten, 1996). According to the context provided for intertemporal family contracts, risk spreading and capital market inefficiencies in the rural sector are the major causes of migration (Katz & Stark, 1986).

Agriculture's seasonal cycle and risk factors are unrelated to remittances income (Rosenzweig, 1988). Migrants, on the other hand, keep remittances flowing to their families. The necessity for the migrant to return to their rural position if the urban income source collapses, as well as the preservation of land and other assets, including those assets that are supposed to be inherited, which the migrant has claimed back in the home, are among the motivations for this phenomenon (Hoddinott, 1994).

Empirical research suggests that 80-90 per cent of migrants send remittances back to the house, albeit the amount of their income and frequency varies (Rempel & Lobdell, 1978). In the family contract model, remittances are seen as part of an implicit long-term contract between parents and children (Hoddinott, 1994). The migration literature focuses on both push and pull variables for migration to occur. According to, Bigsten, (1996), income disparities are the most significant pull factor; in contrast, seasonality, risk, market failures, asset degradation (for example, a land subdivision at inheritance), landlessness, and catastrophes resulting in livelihood collapse are the most crucial push factors. Evidence for both push and pull elements has been identified in the majority of instances. In Kenya, the draw of high pay is more powerful than the pull of land scarcity (Bigsten, 1996). In Egypt, the situation is entirely opposite (Adams Jr, 1993).

As per Ellis (1998), in actuality, rural households' livelihood choices are influenced by a combination of variables rather than being influenced by a single element. Although a single component may appear to be more critical, a combination of both push and pull variables plays an inextricable role in rural households' migration and livelihood decisions (Ellis, 1998).

Methodology and data

The study utilised secondary data compiled under the Household Income and Expenditure Survey (HIES) conducted by the Department of Census and Statistics (DCS) of Sri Lanka in 2016. A sample of 3168 rural youth (aged 15-29) was isolated from the data set and subjected to the study's empirical inquiry. The students, disabled and youth engaged in household activities were not included in the model since their revealed preferences on livelihoods were not captured. However, they were included in the probit model that assessed migration choices except for disabled youth.

There is no universal definition of youth (United Nations, 2011). However, for statistical purposes, the United Nations defines 'youth' as those aged 15 to 24 years old, regardless of any different definitions adopted by Member States (United Nations, 2020). Similarly, for statistical purposes, the Department of Census and Statistics of Sri Lanka (DCS) defines individuals aged 15-24 as youth (Department of Census

and Statistics, 2020). However, the National Youth Policy of Sri Lanka considers those aged 15 to 29 years old as youth (Democratic Socialist Republic of Sri Lanka, 2014).

In many studies on income diversification, households are used as the unit of empirical investigation. The household is seen as a social group that resides in the same place, eats the same meals, and makes joint or coordinated resource allocation and income pooling decisions (Meillassoux, 1981). According to the farm household economic model, A household is a single decision-making unit that seeks to maximise its welfare given a range of revenue earning possibilities and a set of resource limitations (Hymer & Resnick, 1969; Ellis, 1993). By disregarding risk considerations and social institutions (kinship, family, and so on), an economic guideline or baseline may be derived from this, saying that a household would spend its work time in such a manner that the marginal returns for a unit of labour are equal across the three major categories (Haddad, et al., 1997). Families with members working in the urban sector or abroad are referred to as split families, and the livelihood of these homes is described as a link between the rural and urban sectors (Heyer, 1996). Therefore, although the inquiry is at the individual level, household level parameters were added into the empirical models to analyse their impacts on young women's livelihood and migration decisions using the Random utility framework.

Random utility framework (RUF) models the decision maker's choice among a set of mutually exclusive alternatives (Walker & Ben-Akiva, 2002). This framework incorporates a utilitarian approach, stating that individuals desire things to maximise their utility, where positive utility corresponds to pleasure and negative utility corresponds to suffering (Read, 2007).

The RUF's fitness for the underlying evaluation can be defended from a variety of perspectives. RUF is used in this study to examine young women's economic decision making. RUF can be used to analyse decisions and preferences under diverse risk, ambiguity, group decision-making, and financial literacy settings. The RUF is frequently used to investigate the revealed preferences of individuals choosing between discrete choices, and it has been used to a variety of recreation demand problems. Individuals are expected to pick the leisure alternative with the highest level of utility based on the characteristics of the recreation choices. In the RUF, a fundamental assumption is made regarding an individual's information: researchers are aware of the individual's choice set.

Hence, based on the RUF, a multinomial logit model was estimated to model young rural women's livelihood choice decisions. Logistic regression is useful when the dependent variable has two mutually exclusive classes. Multinomial logistic regression(MLR) is used when the dependent or outcome variable has three or more categories (Fagerland & Hosmer, 2012). These categories may be ordered or unordered (El-Habil, 2012). Similarly, the inquiry of young rural women's employment choices involves a categorical dependent variable comprising five distinctive categories. One strength of MLR (and logistic regression) is that it uses odds ratios as predictor variable estimators (Bayaga, 2010). This enables scholars to comprehend the final model more intuitively (Anderson & Rutkowski, 2008). Another benefit of MLR is that it allows for the use of both categorical and continuous independent variables as predictors (Bayaga, 2010). This is not the case with discriminant analysis, which likewise uses a mix of factors to determine group membership (Brown & Wicker, 2000). Additionally, discriminant analysis is less favoured than logistic regression models since it needs normally distributed independent variables (Howell, 2002). When the dependent variable's normality cannot be appropriately assumed, and the outcome contains three or more unordered categories, MLR may be the most suitable sort of approach (Fagerland & Hosmer, 2012).

As demonstrated below, the researcher confidently understood which choices are significant for the individual's livelihood decision. Livelihood choice of youth is a choice among many alternatives, and

an individual will choose the best alternative that maximises their utility with relation to the other alternatives.

$$\mathrm{pr}\left(y = \frac{j}{x}\right) = \frac{\exp(X\beta_j)}{(1+\sum_{(j=1)}^{5}\exp(X\beta_j)} \quad , \quad j=1,\dots,5$$

Where j denotes the alternative livelihood such that

 i. Unemployed
 ii. Agriculture
 iii. Off-farm wage employment
 iv. Off-farm self-employment
 v. Urban salaried employment

The dependent variable, "livelihood choice", comprises five primary levels of livelihood choices available for rural youth. Unemployed youth were included in the model to eliminate sample selection biases. Hence, the dependent variable consists of these five levels. Thus, the multinomial logistic model was used to estimate the log-likelihood of each outcome based on the independent variables, which are denoted by the X. Rural youth who selected agriculture as their livelihood strategy were used as the base category.

Therefore, X is a vector that denotes the factors that influence rural youth's livelihood choices, including both individual-level and household-level factors. Individual factors were the characteristics (gender, age, marital status, ethnicity and whether the youth is a student) and endowments of a youth (own human capital-education level). Household-level factors included land holdings, livestock holdings, age of the household head, demographics of the household head (age and education level).

In addition to these independent variables, district dummies were included to control the local variations in available opportunities and constraints. These variations include agroecology, population pressure, and access to infrastructure and information.

A probit model of migration outcome employing the random utility framework was used to analyse the factors affecting the decision to migrate among the youth. This model expresses the probability of migration of youth at the national and international level and explores the factors that influence the choice of migration. The bivariate probit model is typically used when the outcome of interest is a dichotomous indicator, and the determinants of the probable outcome include qualitative information in the form of a dummy variable and the possibility of the dummy explanatory variable being endogenous cannot be ruled out a priori even after controlling for a set of covariates (Gujerati, 2009). Therefore, being a probit model, the dependent variable was a binary variable comprised of two levels. Value one was assigned to the dependent variable if the youth is migrated and zero otherwise. The explanatory variables in this probit model were mainly similar to those used in the multinomial logit model of livelihood choice.

Estimations and discussion

HIES 2016 data on rural youth revealed facts on their economic activities during the survey period (see Table 1). Table 1 exhibits the gender-wise proportions in each activity of rural youth. Rural young males are more economically active than young females.

Young males' engagement in economic activities is 2.5 times greater than female engagement. Moreover, the intensity for young males to seek available work is higher when compared to young females.

Nevertheless, young rural women are engaged in household activities instead of being employed. 22.22% of female youths are engaged in household activities, and only 1.27 male youths belong to the same category. Female magnitude is 17 times greater than the male magnitude in this scenario.

Table 1: Main activities of rural youth (aged 15-29) by gender

Main activity		Gender		Total
		Male	Female	
Engaged in economic activities	Frequency	1,480	653	**2,133**
	%	33.54	13.65	**23.19**
Seeking available work	Frequency	584	539	**1,123**
	%	13.24	11.27	**12.21**
Student	Frequency	2,137	2,404	**4,541**
	%	48.44	50.25	**49.38**
Engaged in household activities	Frequency	56	1,063	**1,119**
	%	1.27	22.22	**12.17**
Unable to work (disabled)	Frequency	61	34	**95**
	%	1.38	0.71	**1.03**
Other	Frequency	94	91	**185**
	%	2.13	1.9	**2.01**
Total	**Frequency**	**4,412**	**4,784**	**9,196**
	%	**100.00**	**100.00**	**100.00**

Source: Authors' estimations using HIES, 2016

Table 2 exhibits the employment choices of rural youth. 65.55% of them are economically inactive due to their educational and household activities. The sample consists of more economically inactive female youth than male youth. Furthermore, only 1.73% of the rural youth have chosen agriculture as their livelihood strategy. Among the total employed youth in agriculture, only 0.73% of rural young women have chosen agriculture as their employment choice. Moreover, the economically inactive percentage of young women was significantly more extensive than young men.

Table 2: Employment choices of rural youth % (aged 15-29)

Employment choice	Gender		Total
	Male	Female	
Agriculture	2.81	0.73	1.73
Off-farm wage employment	18.52	6.02	12.02
Off-farm self-employment	1.68	1.15	1.40
Urban-salaried employment	8.48	5.81	7.09
Unemployed	13.24	11.27	12.21
Other (economically inactive)	55.28	75.02	65.55
Total	**100.00**	**100.00**	**100.00**

Source: Authors' estimations using sample data from HIES, 2016

Table 3 exhibits the results of the multinomial logit model estimated to assess the factors influencing young rural women's employment choices. Both individual-level and household-level characteristics were included in the model as explanatory variables. In addition, regional dummies were introduced to assess whether these factors change from region to region or, in other words, to minimise the regional biases. Ethnicity dummies were also introduced to evaluate the influence of ethnic groups, namely Tamil and Sri Lankan Moor. The livelihood choices were estimated by considering the agricultural livelihood as the base category. Table 4 exhibits the average marginal effects of the multinomial logit model.

Table 3: Multinomial logit outcome - Livelihood diversification among rural youth

Variables	Off-farm wage employment	Off-farm self-employment	Urban salaried employment	Unemployed
Agricultural land access (ha)	-0.241***	-0.083	-0.417***	-0.231***
Age of the youth (years)	-0.064	-0.015	0.008	-0.267***
Female youth	0.130	0.965***	0.556***	0.981***
Education (years)	-0.016	-0.043	0.454***	0.337***
Livestock holdings	-0.187***	-0.379***	-0.283***	-0.328***
Age of the household head (years)	-0.001	-0.012	0.005	0.016
Education of household head (years)	-0.053*	-0.054	0.013	0.002
Widowed youth	-0.142	-0.300	-0.445*	-1.374***
Ethnicity-Tamil	-0.189	-0.839	-0.426	-0.564
Ethnicity-Sri Lankan Moor	0.616	0.927**	1.102***	0.774**
Central province	-2.135***	-2.339***	-2.046***	-1.379**
Southern province	-1.065*	-1.457***	-1.578***	-0.371
Northern province	-1.479***	-1.939***	-1.283*	-0.130
Eastern province	-2.122***	-2.694***	-2.205***	-0.934
North Western province	-2.110***	-2.126***	-2.154***	-1.840***
North Central province	-2.637***	-2.798***	-2.211***	-1.723***
Uva province	-3.067***	-4.345***	-3.830***	-2.285***
Sabaragamuwa province	-1.144*	-1.412**	-1.845***	-0.630
Constant	5.961***	3.679**	-1.933	4.308***

***Significant at 1%, **Significant at 5%, *Significant at 10%
Source: Authors' calculations

Table 3.a: Summary

Number of observations	3168
Wald chi^2(105)	820.16
Prob > chi^2	0.0000
Pseudo R^2	0.1292
Log pseudolikelihood	-897218.6

Agriculture is still a prominent livelihood and income source for rural families; however, our model results show that rural young women exhibit a lower propensity to choose agriculture as their employment choice in contrast to the rest of the employment options available to them.

In other words, their preference for agricultural employment opportunities is minimal compared to the available alternative opportunities. The rural young women's desired employment choices are off-farm wage employment, and urban salaried employment. The odds of these young women being unemployed are also high relative to their preference for agricultural employment choices. The study revealed several reasons for such socio-economic behaviour of young rural women. Firstly, access to agricultural lands is a primary determinant of young rural women's choice of being employed in the agricultural sector. This claim is evident from the highly significant, positive coefficient (0.009) of the agricultural land access variable of the average marginal effects of the multinomial logit model. When inheriting agricultural lands in rural Sri Lanka, priority is given to male children; thus, land inheritance by female children is significantly low (Agarwal, 1994). This can be one of the reasons that made the young rural women not seek agricultural livelihoods; instead, some are being economically inactive while some are developing their human capital through education. Moreover, as revealed by the negative coefficients of the multinomial logit model, with adequate agricultural land access, young rural women exhibit a less propensity to choose off-farm wage employment, urban salaried employment and being unemployed. Their tendency to choose of-farm self-employment decreases; however, the coefficient is not statistically significant.

Firstly, access to agricultural lands is a primary determinant of young rural women's choice of being employed in the agricultural sector. This claim is evident from the highly significant, positive coefficient (0.009) of the agricultural land access variable of the average marginal effects of the multinomial logit model. When inheriting agricultural lands in rural Sri Lanka, priority is given to male children; thus, land inheritance by female children is significantly low (Agarwal, 1994). This can be one of the reasons that made the young rural women not seek agricultural livelihoods; instead, some are being economically inactive while some are developing their human capital through education. Moreover, as revealed by the negative coefficients of the multinomial logit model, with adequate agricultural land access, young rural women exhibit a less propensity to choose off-farm wage employment, urban salaried employment and being unemployed. Their tendency to choose of-farm self-employment decreases; however, the coefficient is not statistically significant.

Secondly, as the multinomial logit results unfold, education plays a vital role in rural young women's choice of employment. The highly statistically significant, negative coefficient (-0.018) of the education variable of the average marginal effects estimated for the multinomial logit model exhibits that educated young rural women tend not to choose agriculture as their sole income source. Education acts as an upward driver for young rural women to search for urban salaried employment. The highly statistically significant, positive coefficient (0.454) of the education variable of the multinomial logit model's outcome concerning urban salaried employment supports the above claim. Nevertheless, the odds of educated young rural women to be unemployed also high with contrast to their male counterparts. This was evident from the highly statistically significant, positive coefficient (0.337) of the education variable of the multinomial logit model's outcome concerning unemployment.

However, as descriptive sample statistics show, a considerable proportion of young women are economically inactive despite their investments in education. This proportion is the majority, followed by the students. These young women are engaged in household activities. It is also evident that the rural women in Sri Lanka exhibit high-level attachment towards their families (Welgama, 2019). This may be the reason for them tend to engage in domestic activities instead of being employed or involved in entrepreneurial activities.

Table 4: Agricultural livelihoods among rural female youth - average marginal effects

Variables	dy/dx	Standard error
Agricultural land access (ha)	0.009***	0.003
Age of the youth	0.004***	0.001
Female youth	-0.018***	0.006
Education (years)	-0.007***	0.003
Livestock holdings	0.009***	0.003
Age of the household head (years)	-0.001	0.001
Education of household head (years)	0.001	0.001
Widowed youth	0.022**	0.011
Ethnicity-Tamil	0.015	0.018
Ethnicity-Sri Lankan Moor	-0.020***	0.007
Central province	0.124**	0.067
Southern province	0.039	0.033
Northern province	0.037	0.044
Eastern province	0.102	0.064
North Western province	0.134**	0.059
North Central province	0.179**	0.079
Uva province	0.306***	0.100
Sabaragamuwa province	0.052	0.042

***Significant at 1%, **Significant at 5%
Source: Authors' estimations using sample data from HIES, 2016

Nonetheless, they have a significant contribution to the economy, yet it does not reflect the actual economic participation of rural women. For instance, rural women help take care of children, the most important asset and investment of a family (Meinzen-Dick, et al., 2014). Therefore, the contribution of such labour can be harnessed for women's economic empowerment by promoting agricultural entrepreneurial activities at the domestic level while preserving their ties with families. Moreover, these young women's economic contribution can be enhanced further if they are encouraged to engage in agricultural activities such as home gardening. Domestic level agricultural entrepreneurship might also attract the attention of educated young women.

At present, entrepreneurship in the rural setting is limited to cottage level industries run by rural women. These attempts are often conducted as women manufacture items using primary agricultural residuals or locally available resources (Wickramasinghe, 2002). Therefore, such interventions can be popularised further among rural young women. Moreover, rural women's economic empowerment can be observed among the rural widowed population (Rathnayake, et al., 2021). These women are much more economically empowered due to their earnings and economic decision-making ability than the single or non-widowed women in rural areas. The marginal effects of the multinomial logit model results (0.022) show that young rural widowed women exhibit a higher propensity to choose agricultural employment in contrast to their male counterparts. In addition, as seen by the multinomial logit model, the odds of them being unemployed (-1.374) and choosing urban salaried employment

(-0.445) is low compared to young rural men. It is a positive signal that with the potential increase in agricultural land access, young widowed rural women will adjust their economic behaviour towards adhering to agricultural employment instead of looking towards other employment opportunities if all other factors are held constant.

Thirdly, it is evident from the average marginal effects of the multinomial logit results that the young rural women who belong to livestock abundant households prefer agricultural livelihoods in contrast to their male counterparts. It signals that those young women will choose agricultural livelihoods inherited from their respective families when the resources are available. This is similar in the case of land access as well. Therefore, lack of access to land or livestock holdings are significant factors that hinder young rural women's choice of being a farmer, dairy/poultry farmer or choosing agricultural livelihoods. One might argue that there are plenty of abandoned lands in the rural sector, and these can be cultivated by those who are unemployed. This is true only if the abandoned paddy lands are accessible by those unemployed young rural women. Despite the large extent of abandoned paddy lands in Sri Lanka, those are not accessible for rural young women. Hence, agricultural land access or livestock holdings are determinants of the relative trade-offs between agricultural and non-agricultural livelihoods for young rural women.

As far as the education of the household head is concerned, it is only significant for odds of choosing off-farm wage employment. The multinomial logit results show that the variable's coefficient is statistically significant and negative. Sri Lanka is an ethnically diverse country that comprises the Sinhalese majority while the ethnic Tamils, Burger and Sri Lankan Moors are a minority. Hence, the multinomial logit model was estimated using the majority Sinhalese as the base category. As per the statistically significant coefficient (-0.020) of the Sri Lankan Moor variable of the average marginal effects estimated for the multinomial logit model, the odds of ethnic Sri Lankan Moors selecting agricultural livelihoods is low in contrast to their Sinhalese counterparts. In addition, as revealed by the positive significant coefficients of the multinomial logit model concerning employment choices, the odds of them choosing off-farm self-employment (0.927*) and urban salaried employment (1.102) increases. The results hold true to the fact that a considerable proportion of the business community of Sri Lankan comprises Moors (Fernando & Jackson, 2006).

Hence, with these results, the study expects that the young rural women's participation in agricultural employment can be enhanced by increasing their land access and livestock holdings. Furthermore, specialised policies are needed to improve the involvement of educated young rural women in agriculture. For instance, awareness creation programs could emphasise agriculture's crucial role, especially as an alternative income source. Proper institutional arrangements and resource mobilisation in finance and extension should support such programs and interventions.

Table 5 exhibits the results of the probit model of migration outcome. The results of the probit model unfold that agricultural land access is a determinant of young rural women's migration decisions. A young women's propensity to migrate would be diminished with a possible increase in access to agricultural lands. When put differently, lack of land access was one of the push factors for young rural woman migrants. Besides, educated young women tend to migrate more often compared to those who are relatively less educated. The fact was clear from the highly statistically significant positive coefficient (0.104) of the education variable of the probit model. These young women search for better economic opportunities outside the rural sector domestically or internationally. Hence, education acts as an upward driver for young rural women migrants.

Table 5: Determinants of migration choice of rural youth

Variables	Coefficient	Standard error
Agricultural land access (ha)	-0.113***	0.032
Gender (female)	-0.688***	0.041
Education (years)	0.104***	0.011
Livestock holdings	0.019	0.021
Age of the household head (years)	0.001	0.002
Education of household head (years)	-0.044***	0.006
Widowed youth	0.124***	0.050
Ethnicity - Tamil	0.108	0.089
Ethnicity - Sri Lankan Moor	-0.185***	0.070
Central province	-0.383***	0.072
Southern province	-0.365***	0.062
Northern province	-0.458***	0.106
Eastern province	-0.398***	0.086
North Western province	-0.183***	0.067
North Central province	-0.352***	0.088
Uva province province	-0.618***	0.094
Sabaragamuwa province	-0.278***	0.072
Constant	-0.780***	0.149

***Significant at 1%
Source: Authors' estimations using sample data from HIES, 2016

Table 5.a: Summary

Number of observations	9,196
Wald chi^2(105)	938.68
Prob > chi^2	0.0000
Pseudo R^2	0.2300
Log pseudolikelihood	-814357.79

In addition, the odds of widowed young women migrating is high compared to their male counterparts. Therefore, as revealed by a highly statistically significant, positive coefficient (0.124) of the widowed variable of the probit model, being a widow acts as a push factor for young rural women migrants. As revealed earlier, widowed young women are more likely to choose agricultural livelihoods while being less likely to be unemployed. However, the livestock holdings variable was not as significant for young rural women's migration decision as to their employment decision. Thus, enhancing land access for these women may reduce their propensity to migrate while improving the tendency to choose agricultural livelihoods (ceteris paribus). As far as the ethnicities are concerned, young rural women from the Sri Lankan Moor ethnic group exhibit a lesser tendency to migrate compared to the Sinhalese majority, as shown by the highly statistically significant, negative coefficient (-0.185) of the Sri Lankan Moor variable of the probit model. Nevertheless, young women will adopt the most feasible economic solution available by analysing the costs and benefits of migration.

This paper provides an opening for researchers towards the prevalent issue and for developing future research studies to address the different dimensions of the problem. Simultaneously, since the subject area is so vast to be covered in a single study, further research is needed to develop policies to divert young women towards farming or animal husbandry. Similarly, awareness creation among the younger generation is essential to encourage them to participate in agricultural activities either as an employee or as a secondary income source. Nevertheless, the agriculture sector must be developed to attract young women.

Conclusion

The first objective of the research was to assess the livelihood choices of young women in the rural sector in Sri Lanka. Results revealed significant livelihood diversification among rural youth. Rural young women are less economically active than their male counterparts. Thus, they engage in household activities and educational activities. On the other hand, education is a crucial driver for young women to choose livelihoods apart from agriculture. Moreover, education acts as an upward driver for young women to be migrated. Further, the study revealed a tendency for female youth in the rural sector to abandon agriculture in the near future.

The study's second objective was to identify whether land access is a significant factor for rural young women to choose agricultural livelihoods. The study concludes that land access is a significant factor for young women to choose agriculture as their livelihood. Lack of land access is one of the factors which made the young women look towards other livelihood opportunities.

The third objective was to assess the factors affecting rural young women's migration decisions. The study revealed that educational level and marital status (widowed) are push factors of migration while the household head's lack of land access and education level are pull factors.

Therefore, rural women and their preference for agricultural livelihoods diminish regarding the other employment opportunities available for them, emphasising the requirements for alternative modes of enhancing the labour force participation of young women in the rural sector. Hence, the promotion of domestic level entrepreneurship opportunities can be viewed as an ideal strategy as the majority of rural young women are engaged in household activities.

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