

## **Original Research Article**

# **Energizing the Next Generation and Strengthening the Agriculture Sector: Validating Key Indicators for Farm Exit in Sri Lanka**

### **ABSTRACT**

Rural farmers in Sri Lanka face considerable challenges that often lead to the abandonment of farming activities, posing significant implications for agricultural sustainability and rural livelihoods. This study aims to explore the critical risk factors associated with farmers ceasing agricultural activities in Sri Lanka, addressing a gap in existing literature by focusing specifically on rural areas within the country. Employing in-depth interviews conducted across three subregions of Sri Lanka, a series of 14 comprehensive interviews were conducted until data saturation was achieved. Thematic analysis of the interview data revealed 14 sub-themes and four interconnected main themes: the unpredictable nature of farming, instability of the farming industry, scarcity of agricultural land, and social perception of farming, along with the lack of government assistance. Additionally, insights into why younger generations are increasingly leaving agriculture were uncovered. The findings underscore the urgent need for policymakers' involvement in addressing these issues to enhance farmer well-being and mitigate attrition in the rural agricultural sector. This study contributes to the understanding of the factors determining farmer exit from rural agriculture in Sri Lanka and highlights the importance of targeted interventions to support sustainable rural livelihoods.

**Keywords:** Agriculture Sector, Farmers' Exit, Sri Lanka, Grounded Theory

### **INTRODUCTION**

The risk of farm exits has been recognized as higher, even though Sri Lanka economy is dependent on agriculture. Young farmers abandoning their farms is higher than in other occupations due to social and economic factors in developed and developing countries (Duesberga et al., 2017; Leonard et al., 2017; Morais et al., 2017; Nag et al., 2018; Zhan et al., 2012; Turkekul & Abay, 2020; Zagata & Sutherland, 2015). Younger generations often leave agriculture, regardless of modern organic farming (Gambelli, and Bruschi, 2010; Madelrieux, and Alavoine-Mornas, 2013). According to 2020 Statista data, Japanese farmers are 67 and American farmers are 58. USAID reported in 2022 that Filipinos' median age and life expectancy were 57 and 59 years, respectively. Sri Lanka has an arid climate and 50–80-year-olds (Sangakkara and Frossard, 2014).

For Agriculture development and power generation, the Mahaweli Development Project (MDP) was started on the 28th of February 1970 and accelerated to six years from 30 years in 1977. The government established a new Mahaweli Authority of Sri Lanka (MASL) to continue the program under Act No. 23 of 1979(MASL, 2020).The main objective of the development was ‘to establish an integrated rural society that can sustain an acceptable standard of living through the medium of irrigated agriculture and associated activities while contributing to the country's economic well-being.

In the 1980s, it was recognized that farmers in the Mahaweli system B were gradually decreasing, especially the third and fourth generations. Hitihamu (2015) claims that younger generations view farming as a "3D job (difficult, dirty, and dangerous)." Furthermore, society has yet to recognize farming as a respectable career. Farming was also tricky for previous generations. Banning children from inheriting a share of their parents' land has caused the third and fourth generations to need more agricultural land because children cannot partition their parents' property (Withanage, & Sakalasooriya (2019); Mariyono, 2019).Farmers encounter obstacles, including discrepancies in job opportunities, residential arrangements, and climatic conditions. Navigating these challenges can be arduous. The pursuit of higher living standards is impeded by socioeconomic barriers, which individuals encounter directly.

Even though the government provided many remedies, many farmers, especially younger ones, are leaving the farming (De S. Hewavisenthi, 1997). What drives many farmers to leave farming for lower-paying jobs like security or sewing? Scholars have studied agricultural withdrawals in the US, India, and Pakistan. However, Sri Lanka needs more empirical investigations. This study investigates the reasons that cause Sri Lankan farmers to forsake their agricultural land and switch to other jobs to fill a gap in the literature.

## **MATERIALS AND METHODS**

This study focuses on farmers' perceptions of farm exit, using Grounded Theory to investigate why settlers abandoned farming in Sri Lanka. The population of this study covers the Mahaweli System B region in Sri Lanka, which manages 22% of the accelerated program's irrigated land in Welikanda, Aralaganwila, and Punani (Figure 2). It irrigates 14% of feasible land in the Mahaweli Project (MASL, 2020) (Table 1). The region under consideration is situated in the valley of the Maduruoya River, which is a dry zone encompassing a portion of the Polonnaruwa district in the North Central Province and a portion of the Batticaloa district in the Eastern Province of Sri Lanka (MASL, 2018).

### **Sampling Technique**

A purposive sampling is used to select a cohort of 24–58-year-old farmers from the three clusters for in-depth interviews. Guilford and Fruchter (1978) remarked that this method is the most practicable for qualitative research despite the hazards and the possibility of farmers' impressions of their living situations changing throughout data collection.

## **Data Collection Procedure**

Between August 2023 and December 2023, 14 in-depth interviews were conducted in Sinhala, which helped participants understand. After the initial meeting, the data is analyzed, and a subsequent meeting depends on its quality. The number of interviews and conversations needed to gather all relevant information is established. Each discourse examines distinctions and assesses emerging insights. These interviews focus on the participant's lifestyle in the location.

Their view on agriculture is also questioned. Farmers often ask for advice or share unstructured information (Diemer et al., 2020). Each interview is recorded and color-coded to identify interviewers.

## **Theoretical Saturation Test**

Multiple interviews are recommended until the data is saturated with research-relevant material. After five interviews, new theoretical frameworks emerged. The persistence of doing further interviews implies that the research has achieved its maximum potential, as each participant has restated similar thoughts and reached a saturation point, creating a new hypothesis. The saturation level for this study is 13 interviews.

## **Method of Data Analysis**

The data is analyzed using inductive thematic analysis. This methodology effectively examines qualitative research concepts, occurrences, and actions and is rigorous and established (Kiger and Varpio, 2020). The audio recordings are initially transcribed into the Sinhala language, which is the native language of the interviewee, and subsequently translated into English. To ensure precision, all transcribed information is independently cross-checked with corresponding audio recordings. The data collected is analyzed through coding techniques utilizing the MAXQDA software. The present study employs a constant comparison method to examine the similarities and differences in the interviewers' perspectives. The information has been categorized and organized by implementing open, axial, and selective coding techniques.

## **Ethical Consideration**

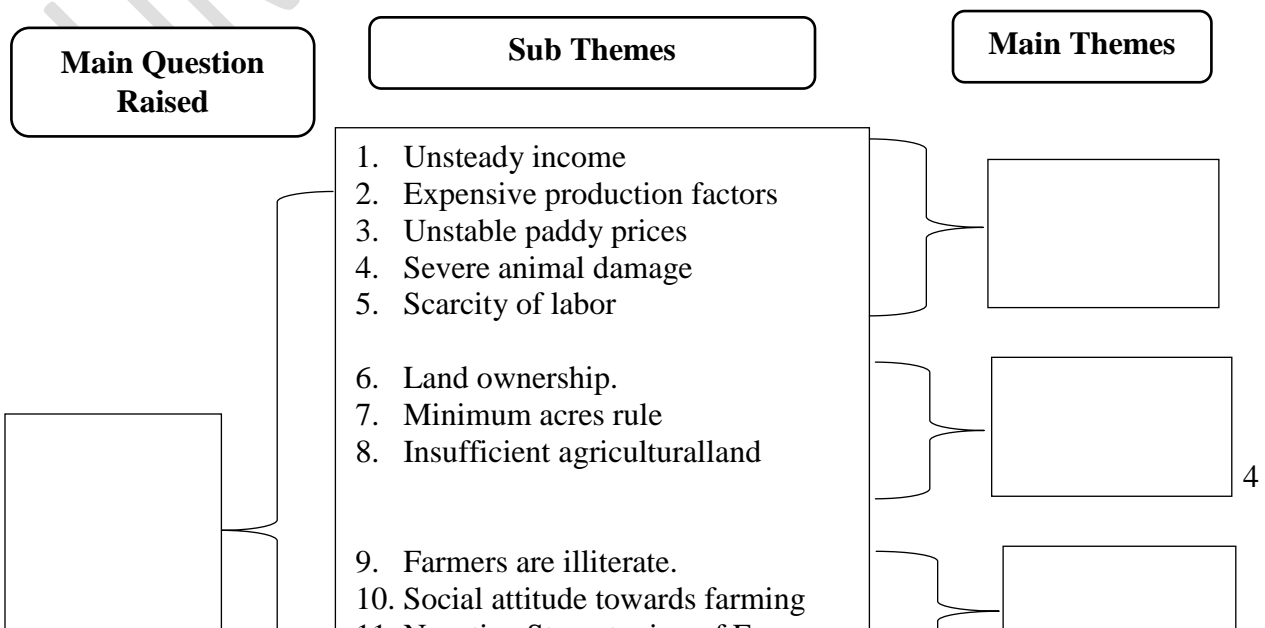
The study underwent review and approval by the SLIIT Ethics Review -Pro-Vice Chancellor Research (PVC/RI/EC/2023/15). The researchers must provide the participants with information prior to the commencement of the study. The participants disclosed the study's nature, methodology, and research goal. The researcher was ethically bound to safeguard the participants' human dignity, privacy, and confidentiality while ensuring fairness and inclusivity. The inhabitants of the locality expressed gratitude for the veracity of their declarations and for safeguarding their anonymity. Preserving one's impulses, feelings, and ideas is also maintained in this context. Humanitarian assistance is extended by providing necessary advice and knowledge. All participants in the study provided their verbal consent before conducting interviews. The study does not involve any financial incentives or coercion to encourage participation from the participants.

## **RESULTS AND DISCUSSION**

## Respondent Profile

The selected respondents from this region exhibited an age range of 24 to 59 years, representing the young and early middle-aged demographic. All individuals under consideration held permanent residency status within the Mahaweli System B and were born within the geographical confines of this region. Out of 14, eight respondents are engaged in various occupations other than farming. Eight are married, and nine are male out of 14. Moreover, four spouses are also occupied with a second income source. Three spouses are occupied with a income source and eight respondents out of 14 occupied in second income source. Of the thirteen, two had not declared their educational level, but all other twelve qualified with lower secondary school certificates, and four passed the university entrance examination (GCE (A/L) [\(Table 2\)](#)).

## Major Findings



## Figure 1: Results of the Thematic Analysis

(Source: Author Illustration)

After completing the thematic analysis, the resulting 14 sub-themes and four main themes are derived, as depicted in **Fig.1**. The collective outcomes of the entire case are computed, and similarities are discerned.

### RESULTS

#### [1] Unpredictable Nature of Farming Industry

All participants believe that lack of revenue causes people to quit agriculture. Labor and critical supplies are too expensive, and their harvest has no market price. They can manage living expenditures like with a second job. Under this theme, five main subthemes emerged to explain why farmers in the agriculture sector left the industry.

Floods, droughts, and pest infestations are common natural calamities in the region. Many farmers are unhappy because natural disasters affect income. Farmers are struggling to support their families due to **revenue fluctuations**. They want the government to guarantee agricultural revenue.

**R5-** *"When you grow rice in paddy fields, you don't know if you'll lose money in a disaster like a flood."* -

**R13-** *"Farm income is not fixed because crop damage can't be predicted."*

The financial burdens because of **expensive production factors** of farming determine whether farming will persist. Most respondents found fertilizer, weeding, harvesting, and pesticide are expensive, necessitating increased effort from crop protectionists.

**R10-***"The start-up costs are high, especially for seed paddy, oil, fertilizer, etc. Then, the total cost of farming goes up." "The price of raw materials has gone up a lot in recent months."*

**R14-***"Raw materials and renting of machines are also expensive right now. Now, people's wages are steadily going up. Also, the rent would be much higher if we let the workers do all the work together."*

It is common knowledge that the price of paddy fluctuates frequently. The magnitude of the crop yield and the amount of demand often determine the occurrence of **unstable paddy prices**.

**R9-***"There are problems with selling the crop. The biggest reason for this is that the middle is getting bigger. Paddy prices are changeable. One good thing about black marketeers is that they make money."*

**R7-***"Paddy prices are also changeable. Later, it went up, but the farmers couldn't keep up".*

**R14-***"Paddy prices are unstable, so farmers lose money. Because of these things, young people are leaving farmland."*

The proximity of Mahaweli near two national parks affects wildlife assaults. Elephant attacks in this region are ongoing and tragic. Over the years, electoral fences, Sirans (horns), and motion lights have solved this problem. Elephants quickly responded to manufacturers' various methods of control. Private electric fencing worsened the situation. Elephant attacks and insect infestations damage crops. A large amount of the harvest is lost due to this injury, reducing output. Because of severe **animal damage**, farmers forsake paddy agriculture.

**R13-***"The elephant issue is serious. Farmers work very hard to keep elephants from eating their crops. People also stay away from paddy fields because of this."*

**R10-***"Young people are not selecting farming as there are damages from insects and animals to the harvest."*

**R3-***"Insects are often present, and the mite infestation is special. They also cause young people to stay away from farming."*

A family's decision to farm depends on agricultural labor availability. Fertilizing, weed, removing infested plants, transplanting, and harvesting commodities at the right time of year need manual labor. This issue is essential because most Sri Lankan farmers use traditional farming methods. Therefore, farming requires family or unskilled labor. However, most family members are educated, and parents don't farm; thus, agriculture needs more family support. The **scarcity of labor** has also impacted farming.

**R6-***"It is difficult to find people to cultivate paddy. Even though they are poor, people do not come to work in the fields. It is also a reason for people to leave farming."*

**R1-***"Few people come to cultivate paddy fields. In the past, they came from everywhere, but now they are also looking for other jobs."*

Based on the subthemes proposition one is developed as, *'The unprofitable farming industry is a result of revenue fluctuations, expensive production factors, unstable paddy prices, severe animal damage, and scarcity of labor'*.

## [2] Scarcity of Agricultural Land

The respondents raised many concerns about agricultural land in the region. Agriculture depends on land ownership and size, which can affect sustainability. Communities struggled with population increase and land fragmentation. These difficulties caused farmers to move to cities.

The 'Swarnaboomi' and 'Jayaboomi' programs provide farmers with **land ownership** under specified conditions. License holders cannot sell their land to anyone other than their immediate family.

**R6-***"Because of the rules for land transfers on Mahaweli lands, we don't even have a place to live or build a house."*

**R8-***"There isn't enough land for the second and third generation. Because Sri Lanka's Mahaweli Authority is the only source of land for the first generation."*

According to **the minimum acres rule**, the Mahaweli Authority initially gave settlers 2.5 acres of paddy land and 1 acre of land, according to MASL (2018). Only a few provisions were made for future generations. The rule requires 1.25 acres of paddy land per person.

**R7-***"The original rice field was split up, and Dad now has a small piece of it. I also get a third of that. Living in the future is not enough."*

**R4-***"My kids are leaving the area to find work because there isn't enough land to farm."*

Due to rapid population increase and settlement expansion, Mahaweli System B needs more agricultural land. Landlessness is serious in this occupation. In the original phase of the Mahaweli Project, residents received most of the farmland with limited land transfer privileges for future generations. Most land in this region was distributed over time. The current situation requires more land because only some individuals can access paddy fields. Due to **insufficient agricultural land**, farmers must relinquish their dreams.

**R5-***"One of the hardest things we had to do was look for land to grow wheat on. Due to a lack of land, land costs are very high, so farmers always look for other ways to make money."*

**R8-***"Because there isn't enough land for farming, some people move into forests and reservations."*

The scarcity of agricultural land is causing adolescents in the Mahaweli area (3rd or 4th generation) to lose their traditional occupations in agriculture. Thus, the second proposition involving farming has stagnated due to the main issues of land ownership transfer, the minimum acres rule, and insufficient agricultural land in this area.

### [3] Social Perception of Farming

The educated younger generation views farming as difficult work that requires physical labor, dirty conditions, and potential hazards, calling it a '3D job.' Parents sometimes dissuade their children from farming and encourage them to work in administration. This negative **social perception of farming** demotivates young people from farming.

Young people are abandoning paddy cultivation because society perceives **farmers as uneducated**. The impression that agricultural labor requires a lack of education or understanding may discourage young people from pursuing it. Farmers believe that the work ethic of public and private sector organizations lowers the social standing of fieldwork occupations.

*R9-"People think I'm less educated than a security guard who has less education than me, even though I did well on the A/L exam."*

*R10-"People who are learned and socially aware tend to grow plants, but they are less accepted. Because of wrong social opinion, young people leave their paddy fields and move to other towns to get small jobs."*

*R5-"Some government officials look down on farmers, which is one reason why young people don't go into farming."*

Due to the poor standard of living and low pay of traditional farming, many families prefer their children to pursue other careers. Many people agreed. Social acceptance of inferior jobs like security guards is higher than farming or office work. Young individuals may hesitate to farm due to societal concerns like lack of attention, acceptability, and neglect. Farmers feel **social attitudes towards farming** occur regularly in metropolitan areas beyond Mahaweli land.

*R14-"Our community has punished us. We hope for a better life, or at least a life we can be proud of. Most of the farmers, though, have heard at least one insulting word".*

*R11-"Some parents turned down farmers as better partners for their daughters' marriages."*

Rapid urbanization and commercialization have created many non-farming jobs. The younger working-age population may pursue non-farming jobs. Younger generations and their parents are **negative stereotyping of farming**. This may be because non-farming employment seems more promising and socially elevated. This job is seen as low-status and blue-collar. The Internet and globalization have created new jobs, replacing agriculture-based employment.

*R5-"Even though the income from a job is less than the income from farming, young people don't like to farm in the mud because they think it's more socially acceptable to work in a clean suit (wearing pants). This trend is slowly getting worse."*

**R14-***"These days, young people are less likely to work in the fields because they can follow new areas on the Internet. There won't be anyone left to work in the rice paddies."*

Considering the factors given by farmers, the third proposition developed as, *"the occupation pattern and societal impacts, such as the perception of farmers as uneducated, social attitudes towards farming, and negative stereotyping of farmers, have led to the gradual withdrawal of the young generation from farming jobs."*

#### [4] **Lack of Government Assistance**

The research pertains to the region that falls under the Mahaweli System B. The region was populated due to the Mahaweli program in 1982 (Chambers & Moore, 2010). Despite 40 years of government-initiated projects, there is still a need for additional government support.

Farmers **need more government support** to increase issues, including unscrupulous vendors selling counterfeit fertilizer, pesticides, and seeds, high labor expenses, and price instability for crops like paddy. Government support for these locations may encourage farmers to continue farming. Most farmers want to quit, and they get more information from non-farming sources than agricultural sources. Government help could be better. The participants believe long-standing settlements limit the government's impact.

**R14-***"The government does not do a lot to help farmers. Everything must be done by us."*

Farmers emphasize the need for innovative farming methods. They believe that **lack of training in new technology** directly impacts production. Traditional farmers need training in modern farming techniques. Farmer ignorance of current technologies hinders their adoption and use of innovative agricultural practices.

**R8-***"Informal ways (like rumors) are used to learn about technology, but this doesn't lead to true information. "New technological knowledge has not been shared in a way that is detailed, organized, and useful."*

**R9-***"Most farmers don't know anything about new ways to communicate. Even though the Mahaweli Authority recommends it, it can't be used in real life."*

The government regulates loans, fertilizer subsidies, and paddy and crop prices. Knowledge is essential for farmers to use agricultural resources properly. Many farmers revealed that they have a **lack of literacy on economic issues**.

**R2-***"There isn't a good way to learn how to run the business. There are workshops that aren't official, but they don't help. No result."*

**R3-***"In the past, the Mahaweli was the set of workshops on how to run the business. They are no longer available."*

**R14-***"There is no organized way to know how to run an economy. If someone tells us something, I'll know it."*

Proposition four is developed as follows; *"The government's involvement should be increased to adequately address the socioeconomic issues of farmers in the Mahaweli area, including training for new technology and improving literacy on economic issues."*

## **DISCUSSION**

Farmers' views on agriculture are examined in this study. The study identified four axial codes or critical themes: the unpredictable nature of farming industry, agricultural land scarcity, social attitudes towards farming, and government support. These variables were key to agricultural disengagement and are supported by many scholars.

### ***Unpredictable Nature of the Farming Industry***

The findings are supported by previous studies (Sandhu & Hussain, 2021; Miranda & Grandori, 2020; Chandran, 2019; Adhikarinayake, 2005). The participants reported unsteady farming income and needed help managing living expenses. Ahamed Lebbe (2012) found that farmers spend much of their income on agriculture, affecting their livelihood. Farmers in this environment prioritize occupations or enterprises over farming since they provide a steady income (Kumar et al., 2021; Parange, 2019). Some farmers are selling their land since there are easier ways to make money nationwide. Urbanization and higher education among younger people are the leading causes (Ameer & Hassan, 2020). Due to rapid urbanization and commercialization, farmers are considering quitting. Low harvest income or considerable losses may cause farm leave (Kumar et al., 2021; Parange, 2019). The rise of natural disasters has affected farmers' finances, causing financial difficulties and lower income. According to one participant, this aspect hurts agriculture and drives farmers away. Floods and droughts have ruined rice production. Drought significantly affects it (Weerasekara et al., 2021). The loss of confidence in agriculture has affected farmers and the younger generation who want to farm. This situation makes people reluctant to participate (Coetzee et al., 2016).

The rising expensive production factors such as cost of seed paddy, agrochemicals, fertilizers, and labor has made financial management difficult for farmers. Farmers' low educational attainment may imply spending management issues (Wordofa, 2019). Previous research has shown that farmers pay high prices for petrol, seed paddy, paddy field processing equipment, and machinery. Shantha and Ali (2011) detected farmed water shortages. The rising cost of oil has raised rental costs for petroleum-powered farming equipment, including threshing machines and tractors (Elijah, 2011). Seasonal agricultural laborers in Sri Lanka face labor shortages. Seeds, hired machinery, pesticides, and farming supplies are expensive. Thus, the price of essential commodities affects harvest production costs. Human labor is expensive. Due to rising demand, Weerabahu et al. (2021) argue that rental rates and labor costs make income unstable. Pesticide prices have risen significantly (Vora, 2013).

Unstable paddy prices cause seasonal income fluctuation. One participant described how notable purchasers set black-market rates for paddy. Thus, the government intervenes in paddy pricing. This situation supports Wijetunga's (2011) finding that government affects variations. Despite the government's periodic price regulations, farmers need a systematic way to acquire paddy during harvest to avoid private buyers.

The findings show that severe animal damage and scarcity of labor are crucial. Many studies have supported this. Elephants destroy plantations overnight, causing 90% of rice harvests loss due to damage to crops near maturity (Praksh et al., 2020; Sajla & Famees, 2022; Gunaratne & Premarathne, 2005; Dissanaikie, 2007). Mahaweli System B bordering sanctuaries. Elephants threaten the surrounding areas. Human settlements, irrigation projects, and development have decreased elephant habitats, forcing them to feed on agricultural land (Horgan & Kudavidanage, 2020). Elephants rarely move within 30 km. Thus, agricultural grounds in those places are constantly attacked. Due to the potential for severe harvest losses, crop damage, particularly to grain crops like paddy, has garnered attention (Li et al., 2018; Chen et al., 2016).

Elephant assaults in Sri Lanka kill 50–70 people yearly and regularly threaten farmers' lives. Several academics (Dissanaikie, 2007; Wickramaratne et al., 2012; Horgan & Kudavidanage, 2020) emphasize the importance of yield protection despite the high risk. Handunnetti (2020) reports that Sri Lankan farmers still need to receive elephant handling training. Various methods have been used to keep elephants out. These include shouting, brandishing guns, and building an electric fence (de Silva & Srinivasan, 2019). Despite these safeguards, elephants can penetrate prohibited regions (Horgan & Kudavidanage, 2020; Thant et al., 2021; de Silva and Srinivasan, 2019).

Wild creatures like monkeys and birds damage 30–35% of the harvest in several places. Insect pests, illnesses, and weeds reduce agricultural productivity by 25% to 30% (Rajapakshe, 2016). Climate change contributes to insect multiplication (Tonnang et al. (2017). 24 pests were found, including 18 insect species, five fungi, and one bacterium identified in Nigeria (Adebayo & Victor, 2006). These bugs spread crop-damaging viruses (Smith, 2021), and Human-wildlife conflicts affect farms (Naudiyal et al., 2019).

Twenty to thirty years ago, farm labor was plentiful. However, labor shortages are critical now. The need for more skilled laborers has led to declining farming (Mallikaarachchi & Samaraweera, 2018; Kumar et al., 2019; Nadolnyak et al., 2019; Morris et al., 2017). The participants raised fertilizer quality and price issues. Due to soil quality and sterility degradation in Sri Lanka, organic fertilizers, pesticides, and herbicides are used despite their long-term risks. Weerabahu et al. (2021) say high chemical concentrations pollute water. Yesuf et al. (2009) state that crop damage is a significant concern in soil and water conservation, notwithstanding chemical fertilizers' low yield change potential. Despite this, modern farmers avoid compost manure. Weerabahu et al. (2021) blame high transportation costs and fertilizer requirements.

### ***Scarcity of Agricultural Land***

This study found that land shortage is the most significant environmental concern for Sri Lankan farmers. Several participants noted that the inability to transfer land ownership, the minimal acreage, and the lack of land in this region are significant factors affecting farming sustainability. These findings are supported by Paranage (2019), Withanage&Sakalasooriya (2019),Suharyanto et al. (2021) and Dharmasiri (2010).

The Sri Lankan government grants farmers land, but owners cannot transfer ownership to their children. The bulk of Jayabhoomi and Swarnabhoomi titles, unique to Mahaweli Land, need prior authorization to transfer and prohibit fragmentation, subdivision, and inheritance limitations. Land transfer causes a new generation to leave farming. The text supportsParanage (2019), Withanage&Sakalasooriya (2019), and Dharmasiri (2010).

Optimizing land usage through MASL has enhanced productivity and reduced farm desertion by introducing new crop varieties and diversifying agricultural production. Kelaniya (2016) reported 5.3–6.2 tn of rice production per hectare from 2010–2012. Farmers may easily manage land size with these new types. The third and fourth generations of Mahaweli System B are more literate than their predecessors. Additionally, these cohorts learn new approaches quickly. Recent research (Sandhu & Hussain, 2021; Miranda &Grandori, 2020; Chandran, 2019) suggests farmers may oppose technological advances, resulting in low harvest yields and stagnant productivity.

Most farmers need new technologies to boost agricultural productivity. The government provides fertilizer and other incentives to help grow rice paddies. Chambers and Moore (2010) state that the next generation must learn cutting-edge farming technology.

### ***Social Perception of Farming***

Mahaweli's third and fourth generations believe agriculture is a "blue-collar job" that requires acknowledgment in modern society. According to the PMoU report 1997, 71% of third-generation system B residents over 20 are disinterested in agriculture. Musa & Basir (2021) and Paranage (2019) report that Mahaweli Authority officials are working hard to fix this. The current generation prefers official activities to environmental ones (Weerabahu et al., 2021). 'Smart' farming practices can increase youth involvement in agriculture by teaching them new technology and showing the profitability of farming.

### ***Government Assistance***

The study found that many participants want more government assistance in financial literacy and rising technology education. These shortcomings affect farmers' decisions to quit. The respondents said that the lack of government funding hindered farming operations and that strong social networks may help. Individuals expect the government to help improve their chances of getting training (Mupfasoni et al.,2020). Numerous research supports this factor's outcomes.

Today, industrialized nations use modern agriculture techniques. Low education levels in emerging nations impede technology adoption (Sarkar et al.,2022). This condition reduces product quality and quantity, hurting international competitiveness (Ronaghi & Ronaghi,2021). Many farmers expect educational programmes to help them learn and use these approaches. New technology could help farmers reduce production costs and boost crop yields.However, the government must create a way to instruct farmers on new technologies (Sivertsson & Tell,2015). According to respondents, the Mahaweli Authority, which manages the area, needs to be more efficient (Amondo et al.,2019).

Government and relevant authorities implement productivity and food security training programmes (Wordofa& Sassi,2017). Mupfasoni et al. (2020) say training improves the quality of life and increases support, empathy, and sympathy. However, the training above may only benefit a small set of farmers (Paranage, 2019).Farmers need basic instruction and the latest technologies. Today, people may share agricultural expertise online (Amondo et al.,2019). Wordofa (2019) states that some training and a smartphone are required. Fertilizers, irrigation systems, and training can improve farmers' economic conditions. Agricultural intervention may also emphasize teaching farmers new technologies. When natural disasters like drought diminish agricultural productivity, experimental farming methods can be used.

## **CONCLUSION**

This research has shown from the farmers' perception, why younger generations leave agriculture highlighting four main factors. As mentioned, policymakers' involvement in managing issues like the unpredictable nature of the farming industry, providing enough land for agriculture, promoting positive social attitudes towards farming, and providing necessary government assistance may protect farmers from industry withdrawal. Reduced attrition and improved farmer well-being in rural areas could improve this vulnerable demographic.

## **Limitations of the Study**

This research's main limitation is that respondents' opinions determine its results. The inconsistent number of participants across Mahaweli System B's three areas (Aralaganwila Area alone) makes respondent recruitment difficult. The study included older and younger participants. Additionally, some interviews are conducted online. The survey excluded urban farmers and concentrated only on rural and agricultural participants. The study collected data through in-depth interviews. Themes are found from the data. Future researchers could use focus group interviews. The responses were consistent and had comparable themes. The researcher's contact affected the respondents' selection and interview method, but the findings were not. The analysis is limited to a single Mahaweli system region and uses qualitative methods, including in-depth interviews. Future scholars can explore additional Mahaweli regions. They can apply quantitative analytical methods with a bigger sample size to generalize research findings.

## Policy Implications and Recommendations

The declaration urges that Sri Lankan officials create a comprehensive farmer welfare strategy. The goal is to attract and retain more individuals in agriculture. The proposed policy addresses several critical agricultural issues, such as land rights, harvest price control, export-oriented agriculture, and farmer training on modern technologies. The government should enable the agriculture business to produce high-quality, eco-friendly food and energy and promote fair trade to protect consumers. The government should improve farmers' living standards, employment security, and income while practicing sustainable agriculture. It will stimulate youth farming and provide new information and technologies to boost agricultural productivity.

A compelling animal protection program is needed for human and wildlife safety and harvest sustainability. New technologies are needed to protect elephants from attacks. Pest-resistant paddy types are essential for pest control. The plan involves creating a forum to combat agricultural stereotypes. New generations are encouraged to farm by the platform. Traditional farming methods can raise farmers' pest protection awareness and introduce them to new methods.

The government should promote the agriculture administration's excellent governance. Robust administrative systems assist agricultural sector development in production, market access, value creation, equitable benefit sharing, and efficient, ecologically friendly natural resource access. Governance will promote food and bioenergy management and social justice.

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Figure 2: Exiting Mahaweli Development Systems

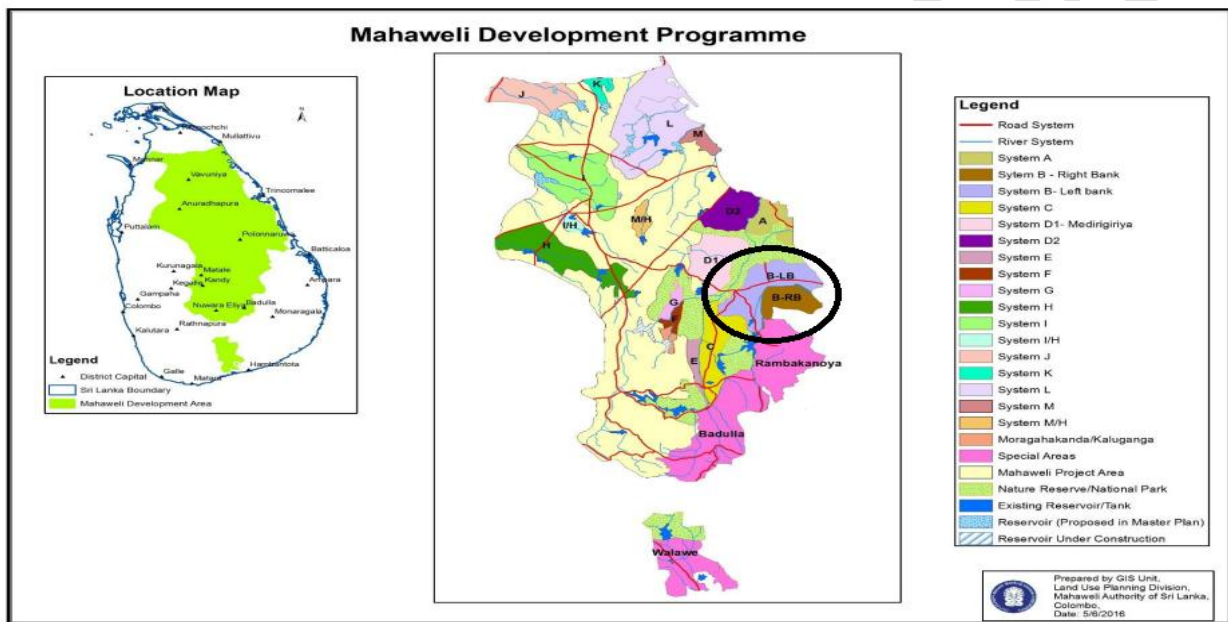


Table 01- System wise Land distribution under Mahaweli Master Plan

System	Area (Ha)	%
A	37,124	6%
<b>B</b>	<b>134,096</b>	22%
C	71,049	11%
D	121,857	20%
E	17,017	3%
F	15,430	2%
G	11,875	2%
H	92,789	15%
I/H	9,901	2%

J	59,367	10%
L	34,235	6%
M/H	13,757	2%

**Table 02 - Respondents Information**

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Total	<b>618,497</b>	100%
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*Source: Land use planning Division,  
Mahaweli Authority of Sri Lanka*

Respondent	Age (Years)	Area	Marital Status	Gender	No. of Family Member	Educational Level	Occupation / Other Income	Spouse' Occupation
R1	25	Welikanda	Single	Male	6	GCE (A/L)	None	-
R2	28	Welikanda	Single	Male	5	GCE (A/L) Two subject Pass	Animal Farming	-
R3	58	Welikanda	Married	Male	6	Not Given	Small shop	Housewife
R4	46	Welikanda	Married	Female	4	Not Given	None	Laborer
R5	33	Aralagan wila	Married	Male	3	Up to GCE (O/L)	Tractor Rental	Housewife
R6	34	Aralagan wila	Married	Male	5	Up to GCE (O/L)	Driver	Housewife
R7	28	Aralagan wila	Single	Female	5	Up to GCE (O/L)	None	-
R8	36	Welikanda	Married	Female	7	Up to GCE (A/L)	None	Retail business
R9	38	Welikanda	Single	Male	3	Up to GCE (A/L)	None	-
R10	49	Aralagan wila	Married	Male	6	GCE (A/L)	Laborer	None - Housewife
R11	32	Aralagan wila	Married	Female	7	GCE (O/L)	Laborer	Barber
R12	24	Aralagan wila	Single	Female	5	GCE (A/L)	None	-
R13	26	Aralagan wila	Single	Male	3	GCE (A/L)	Laborer	--
R14	28	Aralagan wila	Single	Male	4	GCE (A/L)	Fishing	-

Source: Authors Illustration