



IS CLIMATE CHANGE FUELLING MIGRATION IN SRI LANKA?

**Community Voices
from Anuradhapura,
Trincomalee,
Nuwara Eliya
and Kegalle districts.**



Janathakshana



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IS CLIMATE CHANGE FUELLING MIGRATION IN SRI LANKA? **Community Voices from Anuradhapura, Trincomalee, Nuwara Eliya and Kegalle districts.**

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1

Executive Summary

This report's primary objective is to explore the linkage between climate change and migration in Sri Lanka. While people seemingly migrate for economic reasons, increasingly climate change-related factors are adding to already difficult and complicated socio-economic conditions, resulting in people's movement from their homes to surrounding areas or further afield in search of livelihoods.

Janathakshan GTE Ltd, in collaboration with Climate Action Network South Asia and Action Aid International, with support from Bread for the World, conducted a participatory research study of four inland sites across Sri Lanka in a bid to understand the drivers and impacts of migration and specifically the role of climate change. The surveyed communities were from Anuradhapura, Trincomalee, Nuwara Eliya, and Kegalle districts. Researchers also analyzed secondary literature, current policies, and spoke to key informants and experts.

The report establishes that the main drivers of migration at the project locations are reduced or no income due to crop losses on one hand and displacement due to climate hazards like landslides or floods on the other. The failure of agriculture is directly linked to increased temperatures, erratic monsoons, water scarcity and drought. Climate change is considered a major 'threat multiplier,' as it is expected to exacerbate extreme weather events, meaning more people will be on the move.

The research also captured instances where lack of appropriate and timely development interventions significantly added to people's misery. Communities from Sri Lanka's dry zone revealed that low rainfall due to erratic weather patterns combined with the lack of maintenance of their ancient tank water cascade system had created prolonged water shortages.

This participatory research study found that, while climate-induced migration is happening in Sri Lanka, the issue is not being looked at in any holistic way by the authorities.

The report highlights what people require to improve their current situation, which may help communities stay where they are. There is a need for updated risk assessment and hazard / vulnerability mapping and sharing of this information with the communities. Introduction of climate resilient agriculture practices, drought/flood-resistant crop varieties; introduction of new technology and marketing facilities; access to localized early warning systems and alternative livelihoods would provide much needed assistance.

Though every effort should be made to ensure that people can stay where they live, it is also important to recognize that migration can also be a way for people to cope with environmental changes. If properly managed, and efforts are made to protect the rights of migrants, migration can provide substantial benefits to both origin and destination areas, as well as to the migrants themselves.

At the very least, this report has identified a link between climate change and migration. There is an urgent need for more research-based information for robust disaster related policymaking, investment planning, and project formulation to address the threat of climate-induced migration.

2 Introduction



Doing a matrix-scoring exercise with a group of villagers from Parangawadiya. Credit: Jithmi Dayawansa

According to the Internal Displacement Monitoring Centre's (IDMC) latest 'Global Report on Internal Displacement 2020' (GRID 2020), there were over 9.5 million newly displaced people in 2019 due to disasters in South Asia, the highest figure since 2012.

South Asia remains a disaster hotspot, accounting for 38.3 per cent of the global total number of displacements in 2019. The report reveals that most of the disaster displacements in South Asia were due to monsoon rains, floods and tropical storms.¹ The World Bank's 2018 report on South Asia's Hotspots established that 800 million people, that is, half the population of South Asia, could see their living standards worsen by 2050 due to the impacts of rising temperatures and unpredictable precipitation due to climate change. Added to this, estimates claim that there could be between 100-200 million climate refugees by 2050.² The report added that 19 million Sri Lankans could be living in moderate or severe hotspots by 2050.³

Even though it is a middle-income country, Sri Lanka is struggling with the impacts of climate change. Agriculture contributes to 83 per cent of domestic food availability and 25-30 per cent of the population is still heavily dependent on it, including millions of smallholder farmers contribute more than 60 per cent of total agricultural production (Centre for Poverty Analysis, Sri Lanka, 2008).⁴ As the following sections of the report will demonstrate, the country cannot ignore the impacts of climate change and needs to prepare for and invest in significant changes to protect its people, and its economy.



This participatory research was conducted in October 2019 by Janathakshan GTE Ltd under the regional project “Promoting protection and solidarity for climate migrants and displaced communities in South Asia.” This research project is funded by Bread for the World and led by Climate Action Network South Asia (CANSA) in five South Asian countries including Bangladesh, India, Nepal, Pakistan and Sri Lanka.

This project aims to achieve its main goals through evidence gathering, research analysis and knowledge building. It also aims to engage policymakers and the media to increase awareness on issues and, make policy recommendations. Janathakshan GTE Ltd is implementing the project in Sri Lanka covering 4 communities situated in climate hot spots in Anuradhapura, Trincomalee, Kegalle and Nuwara Eliya districts as a pilot project.

The primary objective of participatory research is to explore the linkages between climate induced disasters and migration of local communities.

The specific objectives of the research are:

- To identify the causes of migration with a focus on climate change related push factors.
- To identify trends and destinations of migration. (preferred location and duration)
- To identify the impacts of migration on vulnerable people, especially women, elderly people, person with disabilities and children, besides men.
- To identify the relevant policies, plans and institutional arrangement associated with climate-induced migration in Sri Lanka.

Secondary data in the form of a literature review was used to establish the background for the study, to identify the migration profile of the country, to understand the policy framework and institutional arrangements to respond to climate induced migration.

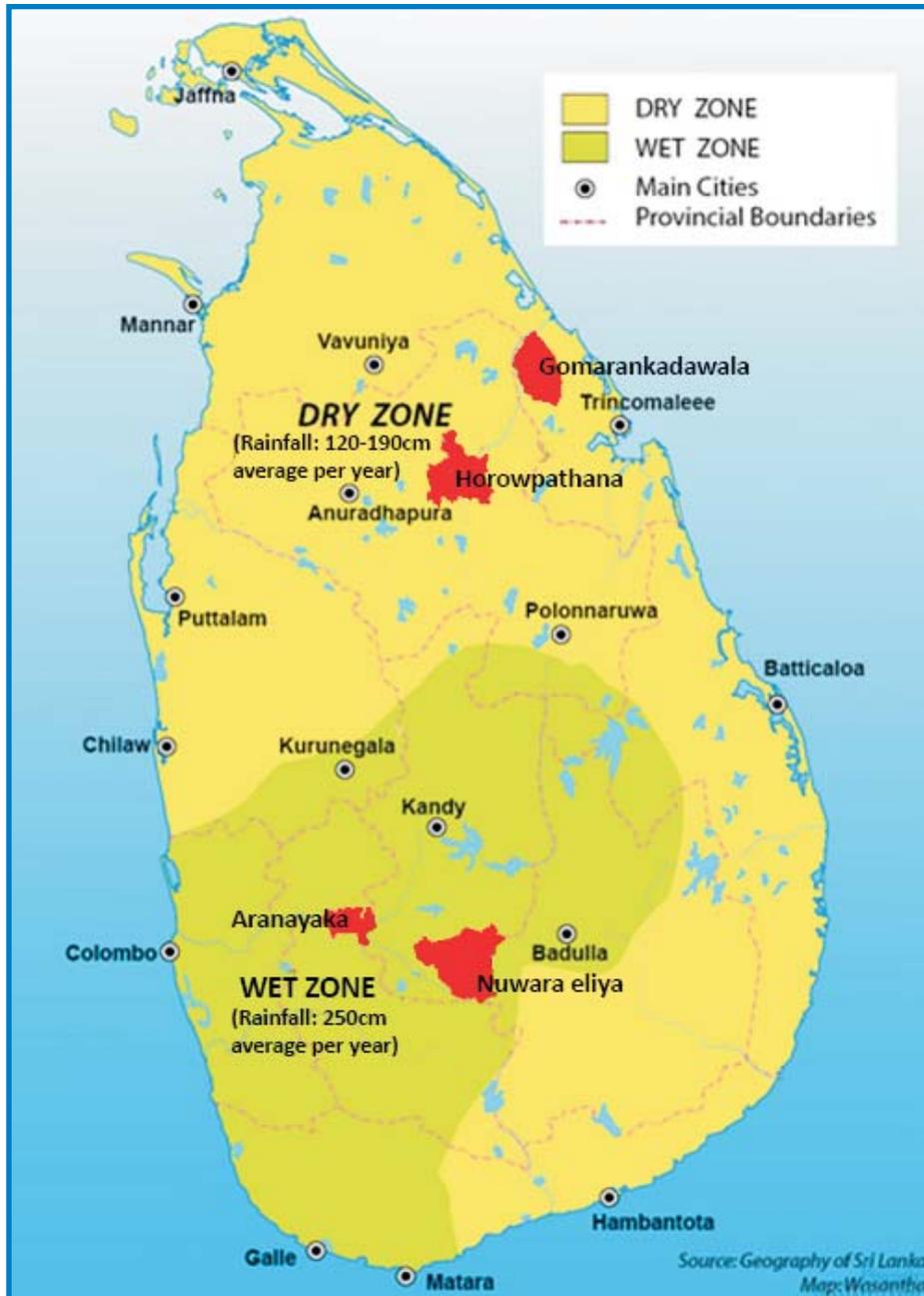
Primary data collection was conducted in 4 locations in 4 districts of Sri Lanka (i.e. Anuradhapura, Trincomalee, Nuwara Eliya and Kegalle.) Primary data was collected through participatory research using a combination of data collection methods. Focus group discussions, key informant interviews and illustrative case studies from the field were used.

3 Sri Lanka Country Profile

- Sri Lanka is a tropical island, situated in the Indian Ocean, southeast of the Indian subcontinent. It consists of 65,610 square km of land area and a coastline of 1,340 km.⁵
- As of July 2017, the estimated population of Sri Lanka was over 22 million, with roughly half of the population living in coastal areas.⁶
- The United Nations Development Program's Human Development Index (HDI) for 2017 ranks Sri Lanka in the high human development category, and positions it at 76 out of 189 countries and territories, the highest in South Asia.⁷
- In relation to the Gender Inequality Index, the country ranks 80 out of 160 countries (UNDP, 2019).⁸
- Following 30 years of civil war that ended in 2009, Sri Lanka's economy grew at an average 5.6 per cent during the period 2010-2018 (World Bank, 2018).⁹
- Sri Lanka's Gross Domestic Product (GDP) per capita is USD 3853 as of 2019. The country has made significant progress in its socio-economic and human development indicators. Its social indicators rank among the highest in South Asia and compare favourably with those in middle-income countries.¹⁰
- Sri Lanka has a tropical climate, with average temperatures ranging between 28 and 32 degrees Celsius. The country receives an average rainfall of 1,800 mm annually, distributed unevenly, ranging from 500 to 5000 mm/year.
- According to the country's National Adaptation Plan, Sri Lanka has been categorised into three climatic zones, namely, 'wet zone' in the South Western region including central hill country, 'dry zone' covering predominantly the Northern and Eastern parts of the country, and 'Intermediate Zone', skirting the central hills except in the South and the West.¹¹
- The economy of the country is driven by agriculture, manufacturing and tourism. Climate change and its consequences pose a huge threat to these activities. In addition to this, factors like loss of biodiversity, deforestation, and soil erosion increase the vulnerability of the country.¹²
- Rain-fed and irrigated agriculture contributes to 83 per cent of domestic food availability (other than fish) and to over 25 per cent of Sri Lankan exports. The major export crops (tea, rubber, coconut and spices) represent the largest contribution (35 per cent) to the agricultural GDP followed by paddy (29 per cent). Around 25-30 per cent of the population continues to be heavily dependent on agriculture.¹³
- Climate-related hazards pose a significant threat to economic and social development in Sri Lanka. As estimated by the World Bank, by 2050, potential impacts due to climate change are foreseen to be approximately a 1.2 per cent loss of annual GDP.¹⁴

4

Sri Lanka & Climate Change Impacts



Climate change Map of Sri Lanka with Project Locations

The 'Sri Lanka Voluntary National Review on the Status of Implementing the Sustainable Development Goals' presented at the UN High Level Political Forum (HLPF) in 2018 stated that: "Climate change has become a major threat looming over the economic and social development of the country. Unmistakable signs of climate change are manifested by the growing frequency and intensity of extreme climate events. The country has been experiencing climate-induced disasters on a regular basis recently, incurring immense losses to economic and social life. Economic losses and damages due to the 2015 flood events alone have been estimated at LKR 99.8 billion."



Tanks during the dry period. Photo: PushparajSomasundaran

It further added: “...an analysis of past meteorological data indicates a countrywide increase in ambient air temperature. Even though no clear pattern of change in rainfall has been recognized from the analysis of past data, observations suggest that the pattern is fast becoming erratic. Recent projections by the Department of Meteorology up to year 2080 indicate a tendency towards more polarized distribution of rainfall in future - wet regions are becoming wetter and dry regions getting drier.”

The report also stated that: “Impacts of projected changes in climate could have far reaching consequences. Livelihoods in agriculture and fisheries would be disrupted by multiple impacts of climate change in short, medium and long-term horizons. A study undertaken by ADB (Asian Development Bank) in 2014 has projected that climate change will affect rice yields negatively in seven major agro-climatic zones in the country in a cumulative and progressive manner. Losses would be as high as one third of current yield levels in some areas by 2080. Residents in certain districts of the dry zone are predicted to face severe scarcity of water for economic and household uses. In the long run, economic and social lives in coastal areas would be vulnerable to rising sea levels, creating pressures for migration.”¹⁵

Being a tropical island with an extensive low-lying coastal belt, Sri Lanka is particularly vulnerable to sea-level rise in the long run.¹⁶ While specific levels in areas around Sri Lanka are yet to be assessed, studies have established that a sea-level rise of 1-3 mm per year is observed in the Asian region, which is marginally higher than the global average (Ministry of Mahaweli Development and Environment Sri Lanka, 2016). Besides shoreline erosion, saltwater intrusion into groundwa-



Tanks during the dry period. Photo: Pushparaj Somasundaran

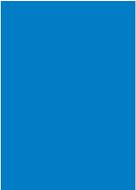
ter aquifers and agricultural areas will impact drinking water quality and affect agricultural livelihoods respectively. There will also be damage to coastal infrastructure, which could severely impact the country's economy.¹⁷

Twenty-five percent of Sri Lanka's population lives within 1 km of the coast, putting them at severe risk from the impacts of sea-level rise.¹⁸ Coastal and fishing communities, in particular, will have severe economic and social impacts on them, creating pressure for them to migrate from their homes.¹⁹

According to a Germanwatch Briefing paper published in 2019, heavy landslides and floods that occurred in Sri Lanka in May 2017 resulted in 200 deaths, and 600,000 people being displaced from their homes, after strong monsoon rains lashed the southwestern region of the country. Twelve out of the total of twenty-five districts, were affected.²⁰

The National Adaptation Plan (NAP) for Climate Change in Sri Lanka noted, from research done over a decade ago, that rainfall variability and the number of consecutive dry days has already increased, while consecutive wet periods have decreased. It also noted that the intensity and frequency of extreme events such as floods and droughts have increased in recent times. Added to this, areas of high rainfall intensities strongly correlated with the locations of landslides.²¹

Sri Lanka's NAP has also acknowledged that one of the socio-economic outcomes of the increased frequency and severity of floods and droughts, cyclones and high winds, landslides, saltwater intrusion and inundation of low-lying areas could be the displacement of people.²²



A 2018 World Bank report determined that 800 million people across South Asia, that is, half of the region's population, could see their living standards worsen by 2050 due to extreme weather events like floods, but also rising temperatures and unpredictable rainfall.²³ The report also estimated that around 19 million people in Sri Lanka live in locations that could become moderate or severe hotspots for temperature and precipitation changes by 2050. This is over 90 percent of the country's population. Rising temperatures and changing rainfall patterns are known to affect agricultural productivity, often devastating people's livelihoods as people struggle to live and migrate in order to survive.²⁴

This research study has collected evidence from communities in Sri Lanka who rely strongly on agricultural livelihoods and are being impacted by these very changes. Erratic rainfalls and warming temperatures are in Nuwara Eliya, for example, are impacting the tea industry. Scanty rains compounded by receding water table has led to a slow onset drought in Anuradhapura and Trincomalee District. Intense cyclonic rainfall can lead to massive landslides like the one in Aranayaka district.

Additionally, lack of appropriate development is known to worsen the impacts of climate change on the most vulnerable populations, as was seen in the following instances. In the case of Arana-yake, reduced soil quality due to improper agricultural practices increased the impact of cyclonic rainfalls in the area, leading to a massive landslide that buried a village.

A tea estate in Nuwara Eliya is more vulnerable to climate change if the estate management is not prepared with the appropriate weather forecasts and predictions. Anuradhapura and Trincomalee Districts rely on an ancient tank water cascade system to deliver water to their fields but when it isn't maintained regularly and properly, it leads to prolonged periods of water scarcity, significantly reducing yields when rainfall is erratic and unreliable. Therefore, it is imperative that development and climate resilience go hand-in-hand, in order to prepare for climate impacts in the future.²⁵

5

Climate Induced Migration - Anuradhapura and Trincomalee Districts

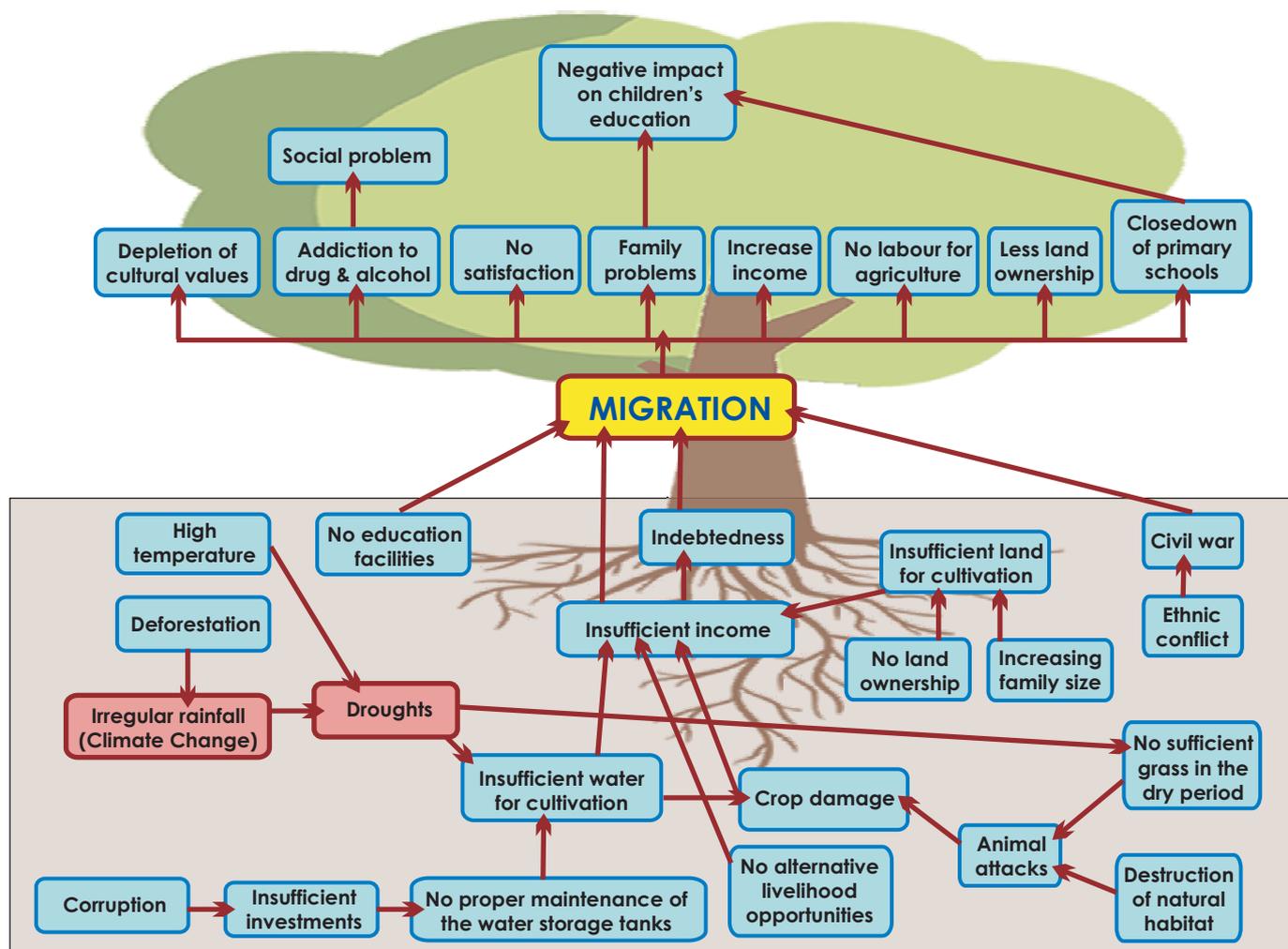


FIGURE 1: Problem Tree Analysis of Gomarankadawala, Source: Author compiled

Parangiyawadiya, in Anuradhapura district and Gomarankadawala, in Trincomalee district are both located in Sri Lanka's Dry Zone, which receives an annual rainfall of less than 1750 mm. Most of the rain occurs during the North-East monsoon which runs from September to March, leaving a five-month dry period from April to August, each year. The corresponding cultivation seasons to these rainfall periods are called the Maha (November to February) and Yala (May to end August) seasons, respectively, in Sinhalese.

Since these settlements first came into existence, paddy farming has been the main occupation of majority of the families in both the villages. Prior to the 1980s, paddy cultivation was mainly carried out for subsistence purposes. However, post-1980s, paddy farming has become more commercialized with the introduction of high-yielding seed varieties, chemical fertilizers and pesticides that are now integrated into agricultural practices.

Since ancient times, the villagers have cultivated paddy and inland crops aligned with the seasonal rainfall and tank cascade²⁴ systems of water delivery. Seasonal rainfall is the main factor that determines the cultivation seasons of paddy.

Paddy is mainly grown in the 'Maha' season and other crops are mainly grown in the 'Yala' season. Focus group discussions with villagers revealed that paddy cultivation is being severely affected by changing weather patterns in the area. According to them, “rainfall does not come when it is expected, at the historically 'correct time' of the growing season.” This puts farmers in extreme difficulty, as most of the paddy farming is rain-fed or reliant on tank cascade systems, which in turn rely on seasonal stream waters.

The cascade systems of Parangiyawadiya consist of 9 tanks, 26 agricultural-wells and 76 tube wells that receive irrigation water from the 'SelligeOya' river. Gomarankadawala has 5 medium tanks and 171 minor tanks, but unfortunately, almost all the tanks in their cascade system are not functioning at their full capacity. This is due to lack of maintenance and, improper management of the tanks. If there is not enough stored water in dry periods, both in the Yala and Maha seasons, paddy is cultivated in “Puranawela”²⁷ using the Bethma²⁸ system. Some farmers even cultivate paddy during the Yala Season, using water from modern day, dug, agricultural-wells.

During the participatory research, at both Parangiyawadiya and Gomarankadawala, community members reported that they have been experiencing drought and irregular rainfall changes, as well as floods in other parts of the district. But, both villages identified continuous drought as the major problem facing the area, from 2015 to 2019.

Water scarcity, caused by the lack of upkeep and maintenance of their traditional tank cascade water system, compounded by the lack of rainfall, has led farmers to search for alternative livelihood sources. Farmers seasonally migrate to nearby and distant cities, to work mainly as skilled and unskilled labourers.

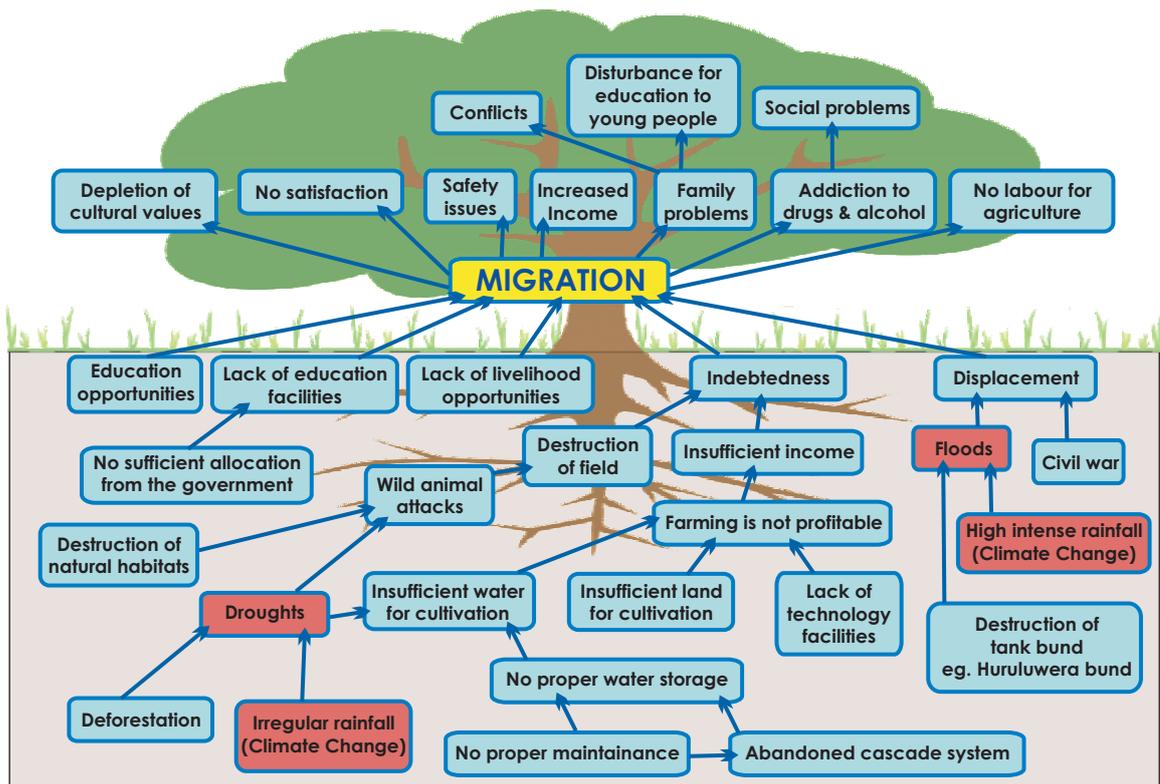


Figure 2 - Problem tree analysis of Parangiyawadiya, Source: Author compiled

5.1 Reasons for Migration:

Erratic rainfall and lack of upkeep of ancient tank cascade water systems, leading to the scarcity of water means that agricultural lands cannot be properly irrigated in the Dry Zone. Lower yields of paddy, if cultivated at all, combined with the increasing costs of inputs such as chemical fertilizers and pesticides for their fields, result in a much lower income for farmers who are in debt to banks, micro-finance companies or middlemen. Farmers in Parangiyawadiya and Gomarankadawala, describe how costs of seeds and fertilizers, even if provided by the government at subsidized prices, haven't been sufficient to reduce the costs of inputs to an affordable level for them. Their inability to pay back loans, as well as their increased borrowing, keeps them trapped in a cycle of indebtedness. They even pawn jewellery or other valuables to survive. Many farmers reluctantly consider migration for work, in order to repay their debts and feed their families.



Ausadahamilage Kularathna
Photo: Pushparaj Somasundaran

“Life is hard in Parangiyawadiya. But we farmers cannot leave our hereditary lands. Paddy farming has been our livelihood for centuries. Sustainable solutions are required to reduce the impact of drought and we badly require better market access for our harvests. We are struggling to cope with these challenges though still very attached to our farmlands.”

5.2 Migration Patterns and Impacts:

Both Parangiyawadiya and Gomarankadawala villages have a history of migration. While the civil conflict was going on from 1983 to 2009, there was a period in the 90s when nearly 80% of both villages migrated out, for safety. Not all returned. Additionally, for about 50 years, people have migrated regularly during non-growing periods (especially the Yala season) to earn an additional income.

However, it was mentioned during consultations with the community that there is an increase in the number of people who migrate, their frequency of migration and the number of days they migrate. Community members of both villages say that over the course of severe drought, about 40% of the rural population migrated to urban centers to earn a living, while about 40% commuted out daily for work, returning at night. Communities from both villages said that they preferred not to go abroad for work.

5.3 Mobility Mapping

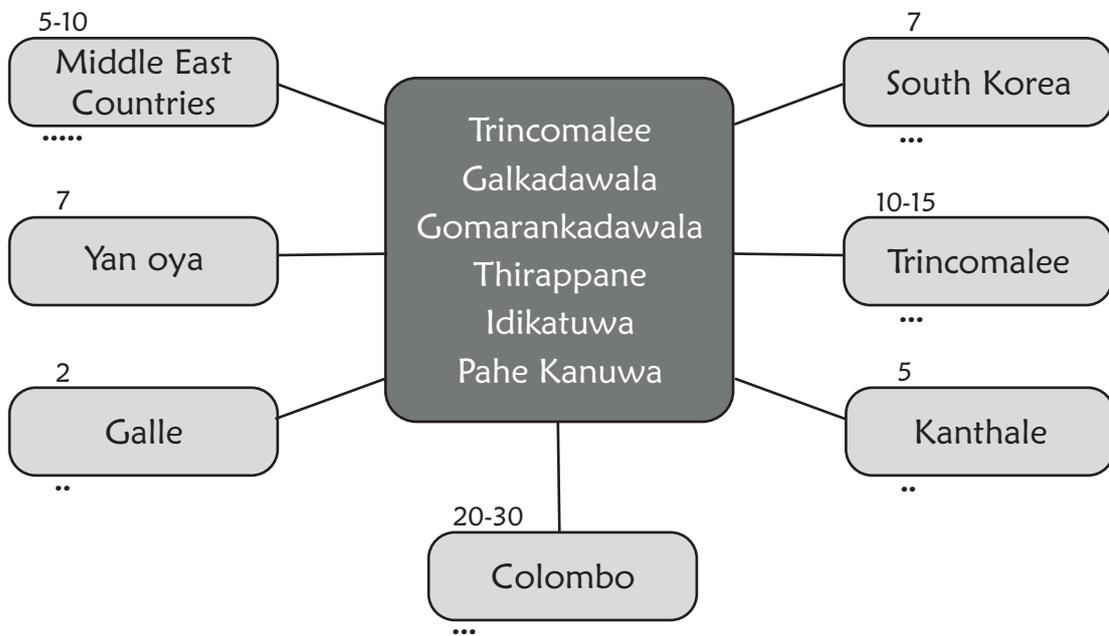


Figure 3: Mobility Map – Parangiyawadiya, Source: Author compiled

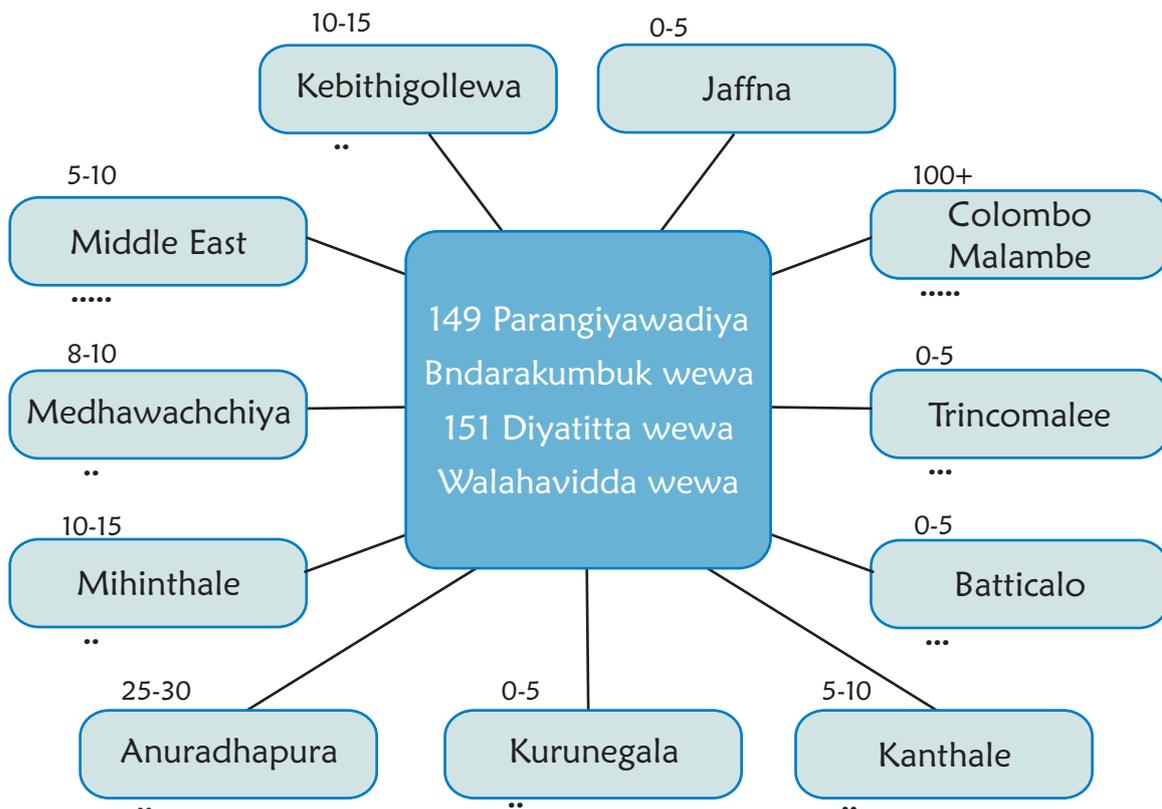


Figure 4: Mobility Map – Gomarankadawala, Source: Author compiled

Mobility mapping exercises with the villagers from both locations showed that people from Parangiyawadiya most commonly migrate to cities such as Anuradhapura, Kurunegala and Kanthale while villagers from Gomarankadawala go to nearby cities like Batticaloa, Jaffna and Madawchchiya. Mihintale, Kebethigollewa, Anuradhapura, Trincomalee and Medawachchiya are the most common places where people travel to, for daily work. These nearby urban centres have more employment opportunities, such as work in garment factories, or as security guards, which attract more people to the cities.

Women mostly work in garment factories while men find work as skilled and unskilled workers. The reason for women to work in the garment industry is the close proximity to their homes so that, at the end of the day, they can return home in time to attend to household chores. Most of these garment factories provide food and transportation. Some people also migrate seasonally, for short periods of time (two weeks to three months at a time) to urban centers such as Colombo, Kurunegala, Kanthale, Batticaloa and Jaffna. However, communities identified the capital city of Colombo as one of the most popular places for migration. The younger generation, in particular, is reluctant to engage in paddy cultivation because it's not a white-collar job and isn't profitable anymore. They are keen to leave their villages and seek alternative employment in major cities like Colombo, and Trincomalee.

Table 1 below, depicts the effect of less or erratic rainfall on paddy cultivation in Parangiyawadiya. It clearly shows that there is a decreasing trend of cultivable land over the period from 2013 to 2018.

Season	Success (% of cultivable lands)	Reasons for success
2013/14 Maha	90	Tanks were full due to heavy rainfall
2015 Yala	90	No rain but enough water was in tanks
2014/15 Maha	50	Total lands were Cultivated but 50% of cultivation was destroyed due to lack of water of tanks and low rainfall
2016 Yala	30	1/3 of lands was cultivated and harvested 50% of cultivated lands due to lack of rainfall and irrigation water
2016/17 Maha	30	1/3 of lands was cultivated and harvested 50% of cultivated lands due to lack of rainfall and irrigation water
2017 Yala	30	1/3 of lands was cultivated and harvested 50% of cultivated lands due to lack of rainfall and irrigation water
2017/18 Maha	40	40% of lands was cultivated and harvested 50% of cultivated lands due to lack of rainfall and irrigation water

Table 1: Percentage of cultivable lands in Parangiyawadiya by seasons

Source: Baseline report of Climate Resilience Integrated Water Management Project (CRIWMP) implemented in Parangiyawadiya, 2019

5.4 Impacts of Migration:

Although there are positive benefits to migration, such as income generation, most of the communities still perceive migration negatively. Conversations with the communities revealed that the younger (aged between 20 and 45) generations who migrated had become addicted to drugs and alcohol. Marital relationships suffered when one partner was away from home, for long periods of time. These rips in the social fabric of families adversely affected the education and mental well-being of young children in the family. The decreasing numbers of men left behind in villages resulted in a dearth of agricultural workers and increased women's work burdens as they increasingly had to take over agricultural work on top of managing their households and providing care to family members who were left behind.

Though women also migrated for work, overwhelmingly, it is mostly men who migrate in search of work. Besides the additional work burden, women are left with little regular income and struggle to manage the unpaid care work such as household costs, as well as childcare, on their own. Some may search for farm work or to earn a bit of money through selling snacks at local markets or sewing. They struggle to manage when the money sent home from the male migrant family member doesn't arrive regularly or often enough to cover costs.²⁹

The research study revealed that traditional farmers struggled to change their livelihoods and preferred to stick to farming, which is what they were familiar with. They preferred not to migrate, especially as they were attached to their surroundings, their home environments and their land.

People's needs (based on community consultations from the two sites):

- A priority that needs to be addressed is the renovation and maintenance of the Tank Cascade systems so that these can deliver water, especially during periods of drought.
- Villagers are keen to receive training in alternative livelihoods, to help them earn an income when their agricultural yields fail due to scarcity of water or prolonged periods of drought.
- People want government to control the price of paddy, so that they can earn a decent income and not rely on middlemen. People want proper access to markets for their agricultural produce.
- People are keen to introduce new technologies including drought resistant crop varieties and see climate resilient agricultural practices as beneficial.
- People want the agriculture extension service strengthened.

6

Case Study: Kularathna's Story



Ausadhamilage Kularathna
Photo: Pushparaj Somasundaran

Ausadhamilage Kularathna is a paddy farmer from Parangiyawadiya village in Horowpathana division of Anuradhapura district, in the North-Central Province (NCP) of Sri Lanka. His village lies in Sri Lanka's Dry Zone, where the main livelihood is agriculture, which relies on a steady precipitation period from November to January (the Maha period) of the North-east Monsoon.

Kularathna owns 15 acres of paddy lands or 'mud lands' that his family has cultivated for many generations. In 2016, Horowpathana did not receive the usual amount of rain. This affected more than 65% of people living in the North Central province who depend on agriculture.

Interestingly the province is also known as 'The Kingdom of Tanks' because of the traditional tank cascade system to retain water for agricultural purposes, that was built by the kings who ruled the area about 2500 years ago,

The cascade system is an operational watershed management system consisting of about 30,000 water tanks built into the landscape for 40,000 sq km across Sri Lanka's agricultural dry zone. Over two millennia, it has created an eco-system that organically sustains agriculture in the dry zone, providing the soil with moisture, even through short periods of drought.³⁰

However, in the last few years, multiple reasons such as lack of political will and the low level of capital invested in maintaining or renovating the cascade systems have impacted tank fed agricultural systems' stability. The combination of erratic and reduced rainfall and lack of maintenance of the cascade system to provide irrigation has lowered agricultural production.

"These areas have faced drought conditions throughout history. But the drought that started in 2016 continued for four cultivating seasons. Unfortunately, the water cascade system's tanks failed to hold water as they are badly in need of renovation. So, we were helpless," recalls



Kularathna. Parts of the tank cascade system were recently renovated, but there's still more to be done.

Failing agricultural livelihood:

In 2012 Kularathna could earn LKR 1.5 million (USD 8330) from paddy farming in the MahaSeason (September to March). He managed to cultivate crops even in the Yala season (May to end August) using the tank water. However, he and the other farmers were also highly dependent on timely rainfall.

After four consecutive seasons of water scarcity, his crops perished. Insufficient rainfall was the main reason, besides the deteriorating irrigation infrastructure that was becoming less capable of retaining or distributing water.

Kularathna, like many other farmers in the area, was trapped in the vicious cycle of chemical-dependent agriculture. The growing costs and overdependence on fertilizer, pesticides, and weedicides could not be covered by lower agricultural yields and lower paddy prices.

Moreover, the Parangiyawadiya farmers could not negotiate reasonable prices with middlemen and were forced to sell their crops at lower prices. This negative return of investment expanded over the years resulting in debt, lower agriculture investments, and diminishing household purchasing power.

Kularathna's income dipped below the minimum he required for his family to survive. Kularathna is the only breadwinner of his family, with one child who has a disability and some extended family members dependent on him.

In April 2017, more than 900,000 people mainly from Northern, Eastern and North Central Provinces, were recorded as affected by drought by the Ministry of Disaster Management.³¹

Kularathna could not afford to take the risk of waiting for normal rains for another season, as his family was heading towards a major financial crisis. During that terrible, drought-ridden period, there was no sufficient drought relief or proper survival strategy in sight for his village, or indeed, their province.

Life as a Migrant:

In May 2017, the North Central provinces were declared critically drought-affected, and Kularathna decided to leave his as he did not have any alternative means of livelihood. He had heard stories of good fortune in the capital city. While drought and water scarcity were the 'push factors' to migrate, the possibility of income generation in Colombo's booming construction sector was a 'pull factor'.

He left his wife and child behind, relying on his mother and in-laws to look after his family. Like Kularathna, about 140 people from his village migrated to Colombo and other cities during this drought.



Kularathna worked as an unskilled labourer at a Colombo construction site, where he earned a daily wage of LKR2000 (USD11). The accumulated monthly earning was much more than what he used to make during the past few years from paddy production.

Kularathna used some of his money to get training in masonry work. Within a few months, he became a skilled labourer doing masonry work on the same construction site where he worked, earning daily wages of about LKR 3000 (USD 16).

However, his life as a migrant in the big city was rough. He had to share a house with several other co-workers, who were strangers, from different backgrounds and cultures to his. After a hard day of labour, the only entertainment options to stave off the loneliness were alcohol, drugs, women, and gambling.

The same people, who provided their friends from the villages with city jobs, were the ones who introduced them to these new temptations in urban settings. Drug pushers employed people within the labour groups, whose job was to trap lonely, fresh migrants to the city subtly. Kularathna observed how some of his acquaintances ruined their lives and spent their hard-earned money on various vices.

Kularathna said, "I had immense peer pressure to take up multiple vices. For most of my friends, those were fun. Sometimes, maybe they were feeling lonely. But by giving in to such temptations, they lost their hard-earned money. After losing money, they had nothing to take home".

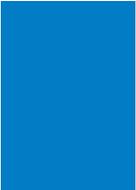
Returning home:

Kularathna couldn't develop a sense of place in the city. He missed being a paddy farmer, which was his true calling. He made the difficult choice to leave his position as a mason in Colombo and return to Parangiyawadiya in 2018 to continue paddy farming. Unfortunately, the 2018 rains were insufficient for paddy cultivation, as in the previous drought-stricken years.

When talking to him in October 2019, Kularathna said, "There was no adequate intervention from the government to purchase paddy." In Sri Lanka, the government must maintain a stable price for paddy. The government-owned Paddy Marketing Board has the mandate to maintain paddy prices. Funds are allocated from the National Budget to purchase paddy.

Few private companies also buy paddy from farmers. However, when the government regulation is not adequate, middlemen step in for paddy purchasing, and farmers have to sell their paddy at much lower prices.

Kularathna continues, saying, "The farmers were compelled to sell their produce at unreasonably low prices to middlemen. I was aware of these problems, but I wanted to try cultivating land again. So I invested some money I had earned during the past two years. All the farmers cultivate with borrowings. But they are unable to pay back the debts fully. However, we don't have many options, as we only have mud lands, and the only crop we can cultivate is paddy."



Most of the farmers are trapped in a vicious cycle of debt. They borrow money from middlemen, and they pay back the money after the harvest. Sometimes, if they don't get sufficient income, they are not in a position to repay the entire loan. They borrow even more money from the same middlemen, continuing to accrue interest on their never-ending cycle of loans.

“Life is hard in Parangiyawadiya. But we farmers cannot leave our hereditary lands. Paddy farming has been our livelihood for centuries. I am not sure whether the government will be proactive in helping us access markets or whether they are even concerned about continued drought. With or without their support, our families have to survive in these lands.”

7

Climate-Induced Migration - Tea Estates of Nuwara Eliya District



Abandoned plots of tea on the estate. Photo: Jithmi Dayawans

“The yield per hectare is decreasing. The maintenance of the plantation has also declined. Management says they are suffering losses. The change in the weather has affected tea production. In May 2016, we experienced a thunder shower, accompanied by hail. The hail and heavy rains destroyed all the young tea shoots. Work on the tea estate was halted for 3 months. There was no income for us. I went out to the city in search of work as a daily labourer. It was a very hard time. Some male estate workers found permanent jobs in some other areas.”

- An anonymous estate labourer from Nuwara Eliya

Sri Lanka is one of the four largest tea-producing countries in the world along with India, Kenya and China. Tea is grown on more than 203,020 hectares across the island, contributes 1.1% of the country's Gross Domestic Product, and accounts for 15% of net foreign exchange earnings. Tea is a very labour-intensive crop. About 1.5 lakh people from the million-strong community are engaged in direct labour in the estates.³²

The researchers spoke to workers and managers from one of Nuwara Eliya's largest tea plantations in the country. The climate in the area is mild, warm and temperate. Nuwara Eliya receives significant precipitation, averaging about 2050mm per year.

The tea plantations of Sri Lanka have an interesting heritage and history. Plantation workers

were brought down from South India by the colonial British in the late 1800s, and settled on the tea estates which became their home (Wickramasinghe, A, Cameron, D.).

The plantations were developed as social institutions that historically provided estate workers with many welfare facilities such as free housing, water, sanitation facilities and social development programmes. These estate communities have now become some of the least developed communities in Sri Lanka, living with complex socioeconomic problems such as low wages, poor living conditions and lack of education.

There are currently 355 registered families living on the estate where the research was carried out, which has a total population of about 1800 people. The participatory research study involving discussions with the estate workers and management revealed that many estate workers live in 'Row houses', consisting of only one room that is shared by the whole family. Health, water and sanitation facilities are poor. Working on the tea plantations exposes workers to wasp attacks and labourers have to work even in adverse weather conditions. Both men and women work on the estate. Women mostly pluck tea leaves and men are engaged in weeding, pruning tea bushes, nursery management, replanting, new planting and factory work.

Many of the estate workers are totally dependent on the income they receive from working on the plantations. At present, the official basic wage for an estate worker in the research area is LKR 700 (USD 3.78) per day. Estate workers are continuously fighting for better wages through their trade unions.

7.1 Climate change impacts on the lives of estate workers:

Discussions with the tea estate workers and estate managers during the participatory research study identified that the changes in weather patterns and particularly the rainfall variability had affected tea production on the estate, adding to other burdens the estate managers were having. High costs of production and lower investment due to an overall income reduction, linked to lower tea yields, had created a vicious cycle of mismanagement of the tea estates, resulting in reduced working hours for the estate workers.

“Tea is a climate-sensitive plant. The entire yield of a tea bush depends on the weather. If the rains won't come on time neither tea plucking, nor can manuring be done. The tea harvesting plan works according to the seasons. Annually April to May and September to December are the cropping periods of Western High Grown Tea Estates. However, I've experienced the impact of climate change in the recent past. Unusual rains in unusual periods destroy the cropping patterns. The growth periods have now shifted from January to March. More rains with cloudy days in this season reduce the growth.”

- Tea Estate Manager

A 2015 study (De Costa, 2008), which performed data analysis from 1945 to 2005, looked at the vulnerability of the tea sector to climate change impacts in Nuwara Eliya district. It revealed significantly higher rainfall variability for the months of January, June, July and August, requiring special management attention to tea production during these months. It also identified that 13.15% of the land area under tea production in the district was vulnerable to climate change impacts specifically related to monthly mean temperature, monthly rainfall, soil erosion and drought. Tea requires a temperature range of 18°C – 25°C to grow. The study showed that some parts of Nuwara Eliya experienced temperatures below 13°C, and above 30°C. Additionally, there was also a possibility of drought conditions occurring during the Yala growing season. The study concluded that these vulnerable spots in the tea estates of Nuwara Eliya were likely to become even more vulnerable in the future if appropriate attention was not given and improvement programmes were not implemented.³³

While tea estates, like the one researched, depend on their labour force, because mechanical substitution for tea plucking is impractical, the estate's falling incomes affect the incomes of the labourers who are forced to find work in other sectors, outside of the tea industry. Falling incomes in this estate has meant a reduction in pay-days for workers from an average of 34 days to 18 days. The drop in income is one of the major reasons workers have been pushed to migrate, in search of alternative part time job opportunities outside the estate. However, estate workers are mostly unskilled workers who might be in a worse-off condition living off the estate, so not everyone is keen to migrate for work.

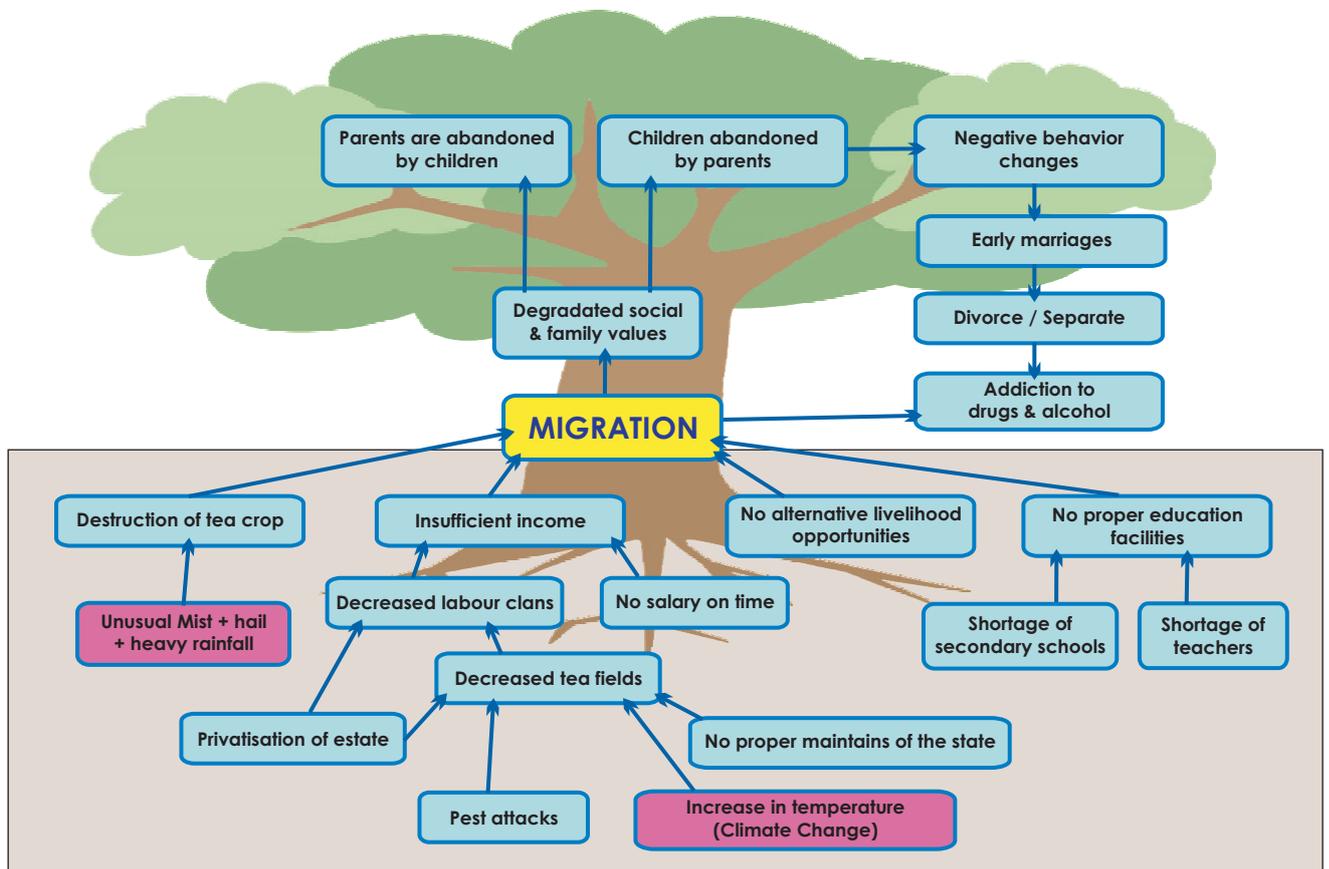
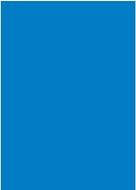


Figure 5: Problem tree analysis from NuwaraEliya tea estate, Source: Author compiled



Vegetable cultivation provides an average of 10 to 15 days additional work a month to estate workers who are willing to do part time jobs in the vegetable gardens on the estate. Other than that, they work as daily paid labourers in the nearby urban centres such as NuwaraEliya, Hatton, Talawakele and Dayagama. Registered labourers³⁴ who are engaged in full time non-plantation jobs, sometimes work as casual labourers in the same nearby towns mentioned above, as well as in distant cities such as Kandy, Colombo, Jaffna, or further afield, in the Middle East. These types of workers are engaged as unskilled and skilled labourers in shops, hotels, factories and gem-mining. Adult males and females, who possess secondary educational qualifications, migrate for foreign employment mostly as domestic workers in the Middle East. Speaking to the community, it was found that 15 female workers from the estate had migrated overseas.

Educated youth with secondary and post-secondary level education secure non-plantation jobs in trades and businesses in cities, such as Kandy or Colombo. A few of those with higher secondary education have either become teachers, or are on the lookout for similar professional work.

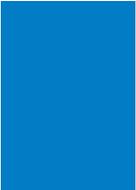
7.2 Impacts of migration:

Discussions with the estate workers revealed that male workers, who migrated for unskilled work in urban centers, were addicted to drugs or alcohol and are unable to save money. Female migrants to the Middle East, worried about their children's future as they grew up without a mother. In general, the communities worried about migration degrading social and family relationships, thereby eroding social cohesion among their community. However, the members of the community continued to migrate as they preferred the comparatively higher wages than what they earned on the estate, and they felt that they received more self-respect and dignity at their destination sites of migration.

7.3 What people want to improve their lives:

Consultations with the workers from the tea estate, revealed the following:

- The workers sought dignity and respect as a priority. Low wages, poor housing facilities, and lack of opportunities for alternative work in the plantation sector created fewer opportunities for plantation workers to live with pride and dignity. This has become one of the push factors for workers, especially for youth to migrate for non-plantation jobs. Establishment of the Plantation Human Development Trust (PHDT) in 1992 for social development in the estates was a positive step in this direction. In 2018, a bill was passed to create an authority to set up villages in plantation areas while amendments have been passed to permit Pradeshiya Sabha (PS) members to utilize PS funds for social development in the plantations, which is a turning point for the plantations. Under the new authority, new villages will be set up and though still on estates, it is expected to give workers more freedom to integrate into mainstream development. These villages and their development will be on par with normal village development with access to the usual services provided by the state and the rights that go with it. The enabling legislation permitting PS members to utilise funds from their local council coffers will help improve conditions on estates, particularly those that do not come under Regional Plantation Companies (Samath, 2018).

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- The community ranked the proper maintenance of the estate to improve agricultural productivity as the second most important priority, as this would directly increase labour demand and allow them to increase their working hours, and therefore, earnings. Both short-term and long-term strategies should be in place to increase the productivity. The following adaptation measures below were highlighted, in order to mitigate the impact of climate change on tea productivity:
 - Use of drought and heat tolerant tea cultivars.
 - Crop diversification.
 - Soil improvement and irrigation.
 - Establishment and management of shade trees.
 - Use of seasonal weather forecasting.
 - Lack of awareness about climate change and its impacts has also been responsible for poor response to mitigation and adaptation. Considering the economic and social importance of the tea industry, raising awareness on climate change impacts and provision of financial assistance to tea growers will increase the rate of adoption of good agricultural practices.
 - Provision of alternative livelihood development was also identified as one of the solutions to uplift the living standards of the plantation community. Related capacity building and training, as well as financial assistance to start and develop such options, must be provided. Setting up centres to provide information and links to employment opportunities also will be important. This would give workers greater access than they have when relying exclusively on their own networks.

8

**Climate Induced Migration - Kalugala Settlement,
Aranayaka Divisional Secretary Division, Kegalle District**

“Most of us were farmers and only few in our village were casual labourers. We were planting vegetables. But most of us had a piece of tea land. Mine was 2.5 acres. I had pea and beans, other vegetable crops, and about a hundred black pepper plants. The income was quite good. We were relocated in 2017. Though my house is still there, living in that area is prohibited after the landslide. My lands are also there. We are allowed to cultivate. But when we are not nearby, maintaining lands is not practical. All the crops will be stolen by intruders. Now there are weeds and shrubs growing on my farmlands. I am sorry to see that. I find it so difficult to have any income. After all, I don't have any skills other than farming.”

- Mr. N.P. Somachandra (54 years old), relocated farmer, Kalugala, Aranyaka.

On 15th May 2016, Sri Lanka was hit by tropical cyclone Roanu, which caused widespread flooding and landslides in 22 out of 25 districts in the country, destroying homes and submerging entire villages.³⁵ After 72 hours of exceptionally high rainfall, never before experienced in this area, on 17th May 2016, at around 1700 hours, a huge chunk of Samasara Kanda mountain started collapsing causing a massive landslide. 756 families were affected, 72 houses were fully damaged and 285 partially damaged in the disaster, from the villages of Siripura, Pallegage, and Elagipitya, all located in Aranayaka Division.

Aranayaka Division receives an average annual rainfall of 2500 mm due to the influence of both the North East and South West monsoon rains throughout the year. There were no major landslides recorded in the Aranayaka region, until 2016. The area had unplanned plantations, improper water management practices and badly planned construction on steep slopes, all of which altered the soil structure of the area. Combined with high intensity rainfall, the soil gave way and created a massive landslide, resulting in villages being buried.

On 22nd May 2016, the Director of Landslides at the National Building Research Organisation (NBRO) stated that “improper land use methods employed in the tea cultivation on the upper regions of the escape slope” had resulted in rainwater quickly infiltrating the soil slope above the affected villages, creating the debris flow that buried and destroyed homes.³⁶ We can observe a gradual increase in the intensity of rainfall over the years. Continuous high intensity rainfall within a few consecutive days induced the landslide. Also, the poor soil conservation practices adopted by villagers mainly for tea cultivation added to the contributing factors for this disaster to occur.”

Highlighting the impact of climate change to induce disasters, Dr. Ranjith Punyawardana, Director/Principle Scientist in Agro Climatology at the Natural Resource Management Centre, Department of Agriculture stated, “Climate change is happening in Sri Lanka. Although there are no significant changes in the amount of annual rainfall we can observe a change in rainfall patterns. Occurrence of extreme rainfall events has increased with changing climate.



New housing scheme at Kalugala. Photo: E R I A C Kularathna

2016 was a comparatively dry year for Sri Lanka, but Aranyaka received extremely heavy rainfall in a span of few days that led to the Samasara Kanda landslide on 17th May 2016.”

Following a painstaking relief operation, 31 people were confirmed dead, 96 missing and many more injured, according to Kegalle District's Disaster Management Centre (DMC). After the incident, survivors, who had lost their homes, were housed in temporary shelters for nearly a year, until they were relocated to permanent settlements. Five hundred and eighty six families were selected for relocation including the families who were directly affected by the landslide and families who were living in areas which have a high risk of future landslides.

The relocation process was led by the Kegalle district secretariat with the assistance of several other government, private and non-governmental organisations.

The resettlement programme offered people two options:

1) Donor Driven Housing Construction:

Houses were constructed by donors with the material and labor supply in the lands provided by the government under their guidance.

2) **Owner Driven Housing Construction – this had three sub-options:**

The first option was that beneficiaries were granted LKR 1.2 Mn (6636 USD) for house construction in five installments based on the stage of completion with a land plot of approximately 10 perches (1 perch = 25 square meters) from the government. With the second option, beneficiaries who obtained the approval for Individual Resettlement Sites (IRS) were granted a lump sum of LKR 400,000 (2212 USD) to acquire land for house construction in addition to the LKR 1.2 Mn (6636 USD) for house construction. And for the final option, beneficiaries were given 1.6 Mn LKR (8446 USD) to purchase the land with a house anywhere in Sri Lanka.

8.1 **From Self-reliance to Dependence:**

During this research study, it was identified that the target community of the research was in a middle-income level stratum, based on the per capita income of the country. Elagipitiya, Canthuna Udagama, Kalugalalhala and Kehelwala, the source locations of the communities settled at Kalugala, are in an agriculturally based, rural area that relies on the home garden system of food production.

Home gardens in the region have a functional relationship with the occupants in a way that relates to economic, biophysical and social aspects of holistic living and well-being. These home gardens consist of a mixture of annual and perennial crops, such as tea, rubber, paddy, cardamom, black paper, jackfruit, coconut, and cocoa. The crops are grown in a random, intimately mixed pattern. According to the typical pattern of home gardens, tea land is available on steep slopes, rubber is grown in moderate terrain and flat terrain is for paddy production. In addition, minor crops can be seen growing near households.

The most fundamental social benefit of home gardens is their direct contribution to a secure household food supply and nutritional needs. The livelihood benefits of home gardens, however, are well beyond the food supply. In general, selling excess home garden production significantly improves the financial status of the community, creating household self-sufficiency.

In the new settlements provided by the government, the land was limited to 10 perch (252.9 square meters) and home gardening was not possible. Even though they were permitted to go and cultivate their previous lands there are limitations such as risk of another landslide, distance and threat of theft of crops. Hence, with re-location, most of the affected communities have lost their main source of income and their sense of social wellbeing.

Since they have been engaged in agriculture for generations, they do not have relevant skills to engage in other livelihoods. Currently the main income source for most of these relocated people comes through unskilled labor. Few of them engage in permanent work or some kind of skilled jobs, such as driving.

Before the landslide, the people living in the villages around Samasara Kanda, Aranayaka worked as smallholder farmers with agricultural lands. Some grew tea, and others grew spices, vegetables, and fruits on their 1 to 5 acres of land. A few family members worked, or were stude-



nts, in other parts of the county but were planning to return to the village. The village had a stable economy, and was a model of a self-reliant, rural village in Sri Lanka, with only a few poor families. In contrast, post-landslide, the village experienced poverty, dependence on the government and others, and dissatisfaction grew.

8.2 Life after relocation

Discussions with the community revealed that after relocating, the newly formed community had less of a sense of 'belonging'. Many people living in rural and semi-urban areas are concerned about their right to be a land-owner, especially because access to land is difficult in the country. In Sri Lanka, lands are registered under the Registration of Titles Act No. 21 of 1998. Therefore, losing one's land, then re-starting life on a 10 perch (1 perch + 25 square meters) relocated piece of land, in close proximity to other houses, without much privacy, was a psychological trauma for the relocated villagers in Kalugala. Additionally, 10 perches of land were not enough for the communities for home gardening.

The new houses for many of the relocated villagers were much smaller than what families were used to, with only two rooms, a hall, a kitchen and a toilet. Families had been given the options to modify the approved core house plan with their own money, but many of them could not afford it. Such lack of space has strongly affected families who were already traumatized by the landslide.

Major changes in livelihoods and family incomes were observed. People were compelled to go out to the cities for work, mostly as daily paid laborers, or three-wheeler drivers. Unlike previous income sources, for example from tea planting and farming, daily labour was unsteady work and brought in a much lower income.

Girls and women feel unsecure due to the lack of proper infrastructure. Shiromi Lakmali says, 'This new settlement does not have a proper access road. The girls have to wake up early in the morning and have to go to school and to their work places in garment factories. Those who work outside return home late in the evening and their parents worry about their protection.'

The relocated villagers also experience a lack of social cohesion after relocation. Before the landslide, the social hierarchy of the village was clear. After the landslide, everyone was almost on the same economic level, having lost their land and self-sustaining sources of income. The community reported that the social levelling that had taken place had been painful especially for those who were used to a 'social hierarchy' of sorts. People were fighting for resources from donors, NGOs and other organisations, which worsened these existing divisions, and further eroded social cohesion among villagers.

8.3 Lessons learned: Sustainable relocation

"The Aranayaka relocation attempt provided us lots of experience and learnings on handling relocation of communities after a sudden and massive disaster. In NBRO we did not have a specific and detailed guideline to follow in such relocation efforts. Subsequently an implementation framework was developed to better guides the relocation efforts of landslide and flood victims" an official from NBRO mentioned. "Many other disaster relocation programmes in Sri Lanka have adopted this framework. Many housing options were provided by the framework for the affected people to choose from. guidelines for land selection have also in cooperated in the frame work. The authorities did their best to deliver. But there were several challenges in implementation" he further added.

The authorities tried to cope with the survivors immediate resettlement needs, and of those who lived in identified high-risk areas. More emphasis has been given to provide people with suitable housing options with appropriate guidelines. But, selection of suitable land plots for relocation (other than in the owner selected resettlement sites) was quite challenging. Some selected relocation sites had difficulties in access to transportation, education and health. It also notes that the relocation should be a well-scrutinized process, which should understand aspects beyond the minimum provisions of safety and basic shelter needs.

Other socioeconomic requirements of the resettled communities such as access to livelihood options, access to other facilities such as health and education, need to be considered to minimize the long term negative socio-economic impacts of forced relocation. The community should be consulted thoroughly to identify their livelihood needs and other socio-economic needs. Resettlement programmes should accompany appropriate livelihood support schemes and other accompanying needs such as recreational needs. Additionally, the community needs psycho-social counseling to adapt to their new life.

The consultation process should start when there is the recognition of a need to relocate. Waiting until a disaster occurs does not give adequate time for suitable planning. Prior identification of communities who are prone to climate-induced disasters, such as landslides, is important and subsequent sustainable relocation planning is required, along with the allocation of funds. As permanent relocation is a complex phenomenon, with lots of challenges, long term sustainable planning is required to minimize the associated negative impacts.

The NBRO has now developed maps which display the distribution of the severity of landslide hazard potential in ten landslide prone areas in Sri Lanka. The maps will be used with associated guidelines as a decision-making tool for the development of central highlands of the country. It is also used for the identification of elements at landslide risk and can be utilized in relocation, rehabilitation and allocation of relief funds and insurance purposes also.³⁷

8.4 People's solutions:



Focus group discussion with villagers from Aranayaka. Photo: Jithmi Dayawansa

The Aranayaka case shows that there are considerable difficulties in adjusting to a new location. Communities highlighted the following issues:

- People are usually not able to adapt quickly to 'just any job' for income generation.
- Relocation should take into consideration the different contexts of communities, including the social structures, demographics, i.e. children and youth, as well as other amenities. This will also help prevent loss of social cohesion.
- The government should identify different relocating strategies (for example semi-urban housing with some farmlands elsewhere).
- The government should carry out pre-designing of relocating strategies based on the landslide zonation maps and in consultation with communities on their housing and livelihood needs.
- People are still in need of proper infrastructure in the relocated area – school children have to wake up earlier to catch the bus as their school is still in their previous village and adequate drinking water is unavailable.
- The government needs to help communities rebuild their self-reliant structure, based on home gardens and providing them with suitable livelihood options.
- Divisional Secretary and some community members highlighted the importance of adopting better soil conservation methods and resilience strategies to reduce the risk of such a landslide happening again.

9

Summary of Findings by Site

Sri Lanka/ Research location site by District	Climate Change impacts	Migration Typology	Impacts of Migration/ Relocation	What people want	Relevant policies, documents and institutions (relevant to findings from all sites)
Anuradhapura & Trincomalee District Nuwara Eliya District	Drought due to erratic rainfall and water scarcity.	Seasonal migration to urban areas. Daily wage labour in nearby areas. Some migrated overseas to the Middle East.	Addiction to drugs and alcohol, especially by the younger generation. Inability to save money due to spending income on vices. Distance affects marital relationships and consequently younger children in families. Loss of sense of belonging or place. Better income generation.	Renovation and maintenance of the Tank Cascade systems so that they can deliver water. Training for people in alternative livelihoods. Government to control the price of paddy. Proper access to markets for their agricultural produce. Better soil conservation methods.	National Climate Change Policy 2012. National Adaptation Plan 2016. Nationally Determined Contributions (adaptation). National Action Programme for Combating the Land Degradation of Sri Lanka. Sri Lanka Water Development Report 2010.
Nuwara Eliya District	Changes in atmospheric temperature and erratic rainfall.	Daily wage labour in nearby areas. Short term seasonal migration to urban areas. A few migrated overseas to the Middle East.	Migrant estate workers suffered from alcohol or drug addiction. Inability to save money, spent on additions. Female migrants to the Middle East left behind families – affecting young children. Erosion of social cohesion due to distance between family members. Increased dignity and self-respect Better income generation..	More dignity and respect through better wages and better housing facilities. Provision of training in alternative livelihoods. Proper maintenance of tea estates to improve agricultural productivity leading to increased labour days.. Training in cultivation of drought and heat- tolerant tea cultivars and better soil management. Better awareness of climate change impacts on tea cultivation, so that management can improve productivity	Draft National Agriculture Policy.

Sri Lanka/ Research location site by District	Climate Change impacts	Migration Typology	Impacts of Migration/ Relocation	What people want	Relevant policies, documents and institutions (relevant to findings from all sites)
Aranayake	Heavy, cyclonic rains leading to a massive landslide.	Displacement and Relocation to a new settlement.	<p>Community lost their sense of belonging.</p> <p>Psycho-social trauma from loss of their land and inability to recreate home gardens for self-sufficiency and smaller housing.</p> <p>Loss of self-sufficiency, creating more dependence.</p> <p>Loss of income and inability to adapt to new, unskilled labour-related livelihoods – also, these provided lower income than before.</p> <p>Erosion of social cohesion as social hierarchy disappeared and everyone was in the same situation post-relocation.</p>	<p>Government should plan relocation sites better and in advance based on landslide zonation maps and in consultation with communities.</p> <p>Government needs to help rebuild communities' self-reliant structure based on home gardens and providing them with suitable livelihood options.</p>	National DRR Policy

10 Psychosocial Impacts of Migration



Focus group discussion with villagers discussing the impacts of migration. Photo: Jithmi Dayawansa

Conversations with the communities captured useful psychosocial dynamics and impacts of forced migration and displacement. In drought-affected Anuradhapura and Trincomalee Districts, disturbances in social cohesion led to drug and alcohol addiction in the younger generation. Long distances between male migrants and their partners affected marital relationships and consequently, younger children in families.

In landslide-affected Aranayaka district, displaced villagers were psychologically affected by the loss of their sense of belonging, self-sufficiency and their independence, as they had to be relocated and given new housing away from high-risk landslide zones.

A 2018 published paper in the *International Journal of Mental Health Systems* establishes that Climate Change impacts like drought and flooding have an effect on the mental health of the most vulnerable and marginalized communities, resulting in challenging psychosocial outcomes that require the attention of the mental healthcare community.

There is now an extensive and rapidly expanding body of research exploring the current mental health consequences of climate change-related extreme weather events. Extreme heat events and humidity have been noted to increase hospital admissions for mood and behavioural disorders, including schizophrenia, mania, and neurotic disorders.³⁸ The indirect mental health consequences of climate change can occur as a result of damages to physical and social infrastructure, physical health effects, food and water shortages, conflict, and displacement from acute, sub-acute, and chronic climactic changes.³⁹

Long-term drought has also been increasingly linked to conflict and forced migration, which can influence psychosocial outcomes like the propensity for stress, Post-traumatic stress disorder (PTSD), anxiety, and trauma.⁴⁰

Academics acknowledge that there are indirect, as well as direct, consequences linked to flooding, drought, as well as forced migration and prolonged displacement as a result of these, which require further research and understanding.

Sri Lanka appears to have robust national policies, plans, and institutions in place to tackle climate change in the country, including putting a special emphasis on loss and damage.⁴¹ These policies have been designed to be implemented under the 'mainstreaming principle' that requires coordination among relevant institutions.⁴² Sri Lanka's public response strategy is to mainstream, which implies implementing activities pertaining to adaptation, mitigation, and loss and damage management through relevant existing sectoral agencies.⁴³

However, climate-induced migration does not sufficiently and clearly figure in many of the related existing policies or. The policies and institutional structure present in the country, however, present a strong opportunity to integrate climate-induced migration in their fold, as efforts are made to strengthen the implementation of the policies and institutions.

In relation to institutions, the Ministry of Environment and Wildlife Resources (changed recently from Ministry of Mahaweli Development and Environment) established the Climate Change Secretariat (CCS) to facilitate its coordination role.⁴⁴ The CCS has undertaken the task of developing policy frameworks and coordination mechanisms for mainstreaming climate action.⁴⁵ Major milestones of this process include formulating the National Climate Change Policy (NCCP) in 2012 preparing the National Adaptation Plan for Climate Change Impacts 2016-2025 (NAP) and submitting Nationally Determined Contributions (NDCs) for adaptation, mitigation and loss and damage in 2016.⁴⁶

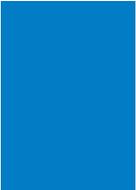
The National Climate Change Policy of 2012 articulates broad national policy statements that will guide decisions taken at national and sub-national levels against the threat of climate change.⁴⁷ It presents 25 policy statements to cover several relevant areas of climate change in Sri Lanka including vulnerability, adaptation, mitigation, sustainable consumption and production, knowledge management and general statements concerning institutional coordination, research and development, technology transfer, legal and regulatory framework, market and non-market-based mechanisms and resource mobilization⁴⁸ (see related box).

The National Climate Change Policy of Sri Lanka

The National Climate Change Policy of Sri Lanka includes the following policy statements, among others :

- Assessing the vulnerability: Recognizing and addressing climate change vulnerability in the national development agenda;
- Disaster management: Develop strategies and mechanisms to prevent/mitigate and manage disasters caused by climate change and protect the communities, ecosystems and, natural and built environment;
- Food production and Food security: Take timely action to address the adverse impacts on crop and animal production and fisheries sectors due to climate change and to minimize the impacts on food production and to ensure food security;
- Human settlement and land use planning: Incorporate nationally appropriate low emission strategies and technologies and appropriate adaptive strategies in human settlement, land use planning, and urban development;

Source: http://www.climatechange.lk/CCS%20Policy/Climate_Change_Policy_English.pdf



The NAP expands and deepens the coverage of adaptation within the broader scope of statements adopted in the Policy and takes them into a level of practical implementation.⁴⁹ The NAP identified adaptation actions for nine vulnerable sectors, namely food security (crop-livestock-fisheries), water, health, human settlements, biodiversity and ecosystems, coastal and marine, export agriculture, industry, energy-transportation,⁵⁰ and tourism. Adaptation is only one component of the policy and other complementary areas that are linked to adaptation (e.g. vulnerability).⁵¹ The major goals of the plan are to raise the adaptive capacity of individuals, communities and the society to cope with impacts of climate change effectively; Reduce the vulnerability to climate risks by enhancing the resilience of communities and ecosystems, and; capture any opportunities that arise due to changes for maximum gain for the society and people.⁵²

National Adaptation plan discusses about how it contributes to achieve the sustainable development goals. It aims to enhance the resilience of systems for water resources, management and use, to overcome the scarcities caused by climate change impacts. It also aims to minimize the impacts on human settlements and infrastructure due to erratic changes in precipitation and build adaptive capacity of communities.

(<https://www4.unfccc.int/sites/NAPC/Documents%20NAP/National%20Reports/National%20Adaptation%20Plan%20of%20Sri%20Lanka.pdf>)

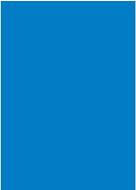
In relation to the Nationally Determined Contributions (NDCs), the adaptation component of the NDCs comprises five broad targets: Mainstreaming climate change adaptation into national planning and development; Enabling climate-resilient and healthy human settlements; Minimising climate change impacts on food security; Improving climate resilience of key economic drives; Safeguarding natural resources and biodiversity from climate change impacts.⁵³

Adaptation Nationally Determined Contributions (NDCs) have been detailed out in the sectors of health, food security (agriculture, livestock, and fisheries), water, irrigation, coastal and marine, biodiversity, urban, city planning and human settlements, and tourism and recreation.⁵⁴

Besides these, several other relevant policies and institutions exist to tackle climate change. For example, the National Action Programme for Combating the Land Degradation of Sri Lanka (NAPCLD) has recognized climate change as a factor that can intensify the degradation of land resources in the future (Ministry of Environment and Natural Resources, 2014).⁵⁵ It highlighted issues such as soil erosion and landslides in up- and mid-country wet zone (upper watershed) areas as critical issues together with actions to overcome them.⁵⁶

The presently available draft framework of the National Agriculture Policy for public comments identified 'Assuring food security' and 'Ensuring environment sustainability' as two major pillars

of the policy in making.⁵⁹ It recognized 'Natural resource management & climate change adaptation' as a key strategic/intervention area that covers soil conservation, water management, agriculture climate forecast and disaster risk reduction.⁶⁰ However, the policy is still at the preliminary stage of preparation.⁶¹



Moreover, the implementation of these policies and plans has suffered due to the lack of institutional coordination and capacity among different stakeholder agencies.⁶² The NAP has identified five gaps that restrain effective adaptation actions against climate change impacts in all sectors: information gap, technology gap, policy gap, institutional gap, and resource mobilization gap.⁶³ Information and institutional gaps appear to be the most critical at the present juncture.⁶⁴ Recognising these gaps, the 2018 national budget has allocated substantial provisions for capacity developments of the unpack.⁶⁵

It will be a missed opportunity - one that will impact the lives of millions of people if climate-induced migration is not brought under the purview of these policies and institutions.

National Policy on Disaster Management discusses about early-warning and emergency response systems must be operational and regularly tested at national, regional, local and community levels. Displaced persons and their properties, and people with special needs should have search and rescue services, care and protection. In the event where re-settlement is inevitable, houses should be adapted to beneficiary needs and respect accessibility standards as per national law. Houses should be provided only in locations suitable for human settlement and should be designed and constructed with community participation. Hazard profiles, vulnerability and risk assessments for multiple hazards should be regularly updated. Areas prone to hazards should be identified for parties to prevent and mitigate impacts. Risk analyses should incorporate inter-linkages among disasters, poverty and development. Scientific research tools and methods should be available and used to reduce disaster risk. Disaster risk reduction activities should integrate climate change adaptation.

(<http://www.disastermin.gov.lk/web/images/pdf/slcdmp%20english.pdf>)

As part of its workplan, Warsaw International Mechanism for Loss and Damage, under its strategic workstream, discusses "Enhanced cooperation and facilitation in relation to human mobility, including migration, displacement and planned relocation"

(<https://unfccc.int/process/bodies/constituted-bodies/executive-committee-of-the-warsaw-international-mechanism-for-loss-and-damage-wim-excom/workplan>)

Sri Lanka's Nationally Determined Contribution (NDC) makes recommendations to establish mechanisms at the local and national levels, which will contribute to the Warsaw International Mechanisms for Loss and Damage in an effective and efficient manner.

(<https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Sri%20Lanka%20First/NDCs%20of%20Sri%20Lanka.pdf>)

12 Social Protection Systems in Sri Lanka

Given the increasing incidence of crises and disasters around the world, “adaptive social protection is a concept” that has been gaining ground globally.⁶⁶ It emphasizes on placing “an enhanced focus on better enabling social protection to address the impacts of all manner of shocks on households — including natural disasters and climate change, economic and financial crises, conflict and displacement, among others.”⁶⁷

The effects of increasing incidence and severity of disasters are felt even more harshly by the already vulnerable groups in the country.⁶⁸ Social protection can play a complementary role in improving the resilience of people and reducing governments' expenditure after a disaster.⁶⁹ Taking an adaptive social protection approach is advisable, given the capacity of disasters to undermine the gains of poverty eradication activities.⁷⁰

The Sri Lankan social protection system consists of a range of policies and programmes that are implemented by the government, specifically ministries and provincial councils, and non-governmental sectors, and targeted toward various vulnerable segments of the population, such as the poor, the elderly, the disabled, internally displaced persons, children and women⁷¹ (See related box on social protection schemes). Social protection programmes vary from cash and in-kind transfers to education programmes, pensions and other retirement benefits, healthcare assistance, micro-insurance and livelihood development programmes.⁷² They can be broadly categorised as: (i) social insurance; (ii) social assistance; and (iii) active labour market programmes.⁷³

The primary poverty alleviation programme in the country is the “Samurdhi” scheme.⁷⁴ It provides a consumption grant transfer to eligible households, as well as banking facilities and workfare initiatives.⁷⁵ The Samurdhi social security programme is the largest insurance programme for low-income groups, covering over one million families (who are beneficiaries of the government's cash transfer programme) and providing insurance] to life cycle events such as marriage, child birth, sickness and death.⁷⁶ This programme also includes a scholarship component aimed at providing benefits for children of beneficiary families who pass the General Certificate of Education (Ordinary Level) examination.⁷⁷ Social insurance benefits are provided from the Samurdhi Social Security Fund formed from a monthly deduction of Rs. 45 from the monthly cash transfer given to these families.⁷⁸

Natural disaster-related social protection measures in Sri Lanka include insurance programmes only for certain livelihoods.⁷⁹ The Agriculture and Agrarian Insurance Board is a government agency under the Ministry of Agriculture, whose purpose is to offer low-income farmers (1) pension, death and disability insurance, and (2) crop and livestock insurance. Enrolments in the schemes are done individually and all bank loans are covered to 100%. However, the lack of human and physical capacity for the evaluation of risks are major barriers constraining the programme.⁸⁰ Moreover, rain-fed areas are not promoted for insurance whereas, rain-fed irrigated crops' contribution to total crops is 24 per cent.⁸¹

Insurance schemes:

A handful of contributory insurance programmes have been introduced by the government for some specific informal sector occupations.⁸² A contributory personal accident insurance and a contributory health insurance are available for farmers.⁸³ Livelihood related contributory insurance schemes are also introduced for farmers for crop, livestock and agricultural equipment.⁸⁴ Recently, a boat insurance scheme and a life insurance scheme were introduced for fishermen.⁸⁵ There is a specialised insurance scheme for migrant workers as well. However, the low coverage of the programmes has limited their effectiveness.⁸⁶

The losses faced by farmers means that effective risk management is an important strategy for them to adopt. Risk-sharing is an invaluable part of this strategy. Various agriculture-based insurance schemes have been in place in Sri Lanka for many years. But, in general, their uptake has been low.⁸⁷

Some of the schemes are outlined below:

Crop Insurance –

This has been in place for decades. There are private schemes and privately run schemes where both provide insurance payouts based on crop damage. According to 2016 figures, both schemes together insured less than 4% of paddy-cultivated area. Crop insurance is sometimes a requirement in getting agricultural loans. A 2015 survey of farmer in Anuradhapura district revealed that 31% of the interviewed farmers did not know how crop insurance worked, and another 23% had doubts about using it. Most of the farmers did not understand the real benefits of crop insurance for smallholder farmers, like them.

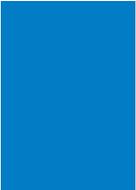
Index-based crop or weather insurance -

The payout is based on a certain weather index, for instance, rainfall, and is correlated with crop yield. It's characterised by low transaction cost and doesn't usually require crop damage assessments in the field. However, the absence of required rainfall and yield data lack of weather stations and delays in getting data on a frequent basis create challenges in the efficacy of implementing this kind of insurance.

However, more recently, the budget 2018 proposals indicated the need for implementing weather-based index insurance programme for Sri Lanka. This covers six crops namely paddy, maize, soya, big onion, potato, and chilli. Index based insurance products have been developed and are now being implemented at pilot level in the Vavuniya district by the Agriculture and Agrarian Insurance Board (AAIB).⁸⁸

National Natural Disaster Insurance (NNDI) –

This was introduced as a country-wide initiative which launched in April 2016 to cover loss of human lives and property damaged. The National Insurance Trust Fund (NITF) implements the insurance programme. All the damages caused to lives and properties due to cyclones, storms, flo-



ods, landslides, hurricanes, earthquakes, tsunami or victim of lightning, falling objects/trees due to heavy winds, collapse of retaining walls induced by rain or any other natural perils excluding droughts are covered. Death compensation is Rs.100,000 (USD\$ 527.67) (except for fishermen). For fishermen registered under the Department of Fisheries, the death compensation amounts to Rs.1 million (USD5276.69), as this value had been previously declared by the Ministry of Fisheries. The limit for property damages is Rs. 2.5 million (USD 13191.72). In addition, the insurance covers the damages that may occur to small business establishments of which the annual turnover does not exceed Rs. 10 million (USD 52799.90) up to maximum coverage of Rs. 2.5 million (USD 13191.72). This scheme had experienced a 66 percent increase in total claims in 2016 due to severe floods, as opposed to total claims in 2015.⁸⁹

Sri Lanka has developed a National Climate Change Policy, under the Ministry of Environment and Renewable Energy, that focuses on mitigation and adaptation of the impact of climate change, but does not mention climate-induced migration as an urgent challenge for the nation.⁹⁰ However, Sri Lanka has enacted the Disaster Management Act (2005) for the preparedness and management of natural hazards affecting the people within the country.⁹¹

Periodic pension benefits are provided only to public servants, farmers, fishermen and some self-employed persons.⁹² Public servants are formal employees while farmers, fishermen and the self-employed are considered as informal workers who can access pension benefits through voluntary enrolment and contribution to a number of schemes that have been established specifically for them.⁹³

However, over 60 per cent of those who are employed are in informal employment with little or no social protection benefits.⁹⁴ Moreover, the unemployment rate is much higher among the youth, particularly among females.⁹⁵ Although the country's social protection programmes appear geared to provide assistance in times of disaster, these were not formulated for providing specific relief.⁹⁶ In addition, insufficient coverage of informal sector workers is a gap in the country's social protection system.⁹⁷ The pension schemes for informal sector workers are subject to problems such as inadequate benefits as well as financial unsustainability of the programmes.⁹⁸ Given there are several government bodies implementing a number of social protection programmes, lack of institutional coordination has resulted in overlaps and duplications.⁹⁹

Moreover, many programmes suffer from targeting problems!¹⁰⁰ A study found that less than a half of the households in the poorest decile received benefits under the Samurdhi cash transfer / subsidy programme, while between 3 per cent and 15 per cent of households in each of the top four deciles received benefits under the programme.¹⁰¹ The study further revealed that on the one hand, only around 49 per cent of the poor households (as per the official poverty line) were receiving Samurdhi benefits while on the other hand, only around 15 per cent of the Samurdhi beneficiary households were poor.¹⁰² These figures indicate the severity of the targeting issues of the Samurdhi programme – both inclusion and exclusion errors.¹⁰³ In addition, many programs lack clearly defined eligibility criteria and entry and exit mechanisms, which too have contributed to the existing targeting errors in some social protection programmes.¹⁰⁴ Then, many social protection programmes suffer from budgetary constraints, which restrict them from expanding their coverage and improving the benefit amounts.¹⁰⁵

Social Protection Schemes in Sri Lanka:

Although around 60 per cent of those employed are in the informal sector, only a handful of social security programs are available to them, which together covers only a smaller share of the informal sector workers. Informal sector workers often lack maternity and medical benefits and retirement benefits like Employees Provident Fund (EPF), Employees Trust Fund (ETF) and pensions. There are a handful of contributory pension schemes (and insurance schemes) designed for specific groups of informal sector workers like farmers and fishermen. The farmers' and fishermen's pension and social security schemes and Surekuma Pension Scheme of the Social Security Board are the existing social security programs for informal sector workers. These are voluntary, contributory schemes where the benefit amounts are based on the contributions of the individual members. However, these schemes suffer from a number of issues such as low coverage, inactive membership, low level of benefits; high administration costs and weak financial sustainability.¹⁰⁶

- The Samurdhi social security program is carried out under the country's main poverty alleviation program - Samurdhi program, by the Department of Commissioner General of Samurdhi (DCGS), with the objective of providing insurance coverage to low income families in the event of illness, death, child birth and marriage. The Samurdhi / Divineguma programme is the main social protection initiative for the poor in Sri Lanka. It comprises of multiple components, including the subsidy (or the cash transfer) program, social security programme and the nutrition program - designed to achieve its short term objective of reducing the vulnerability of low income families, and the microfinance programme and livelihood development geared towards the long term objective of poverty reduction.¹⁰⁷
- Farmers' Pension and Fishermen's Pension Schemes, implemented by Agriculture and Agrarian Insurance Board - Ministry of Finance and Planning.¹⁰⁸
- Migrant Workers' Insurance - Ministry of foreign employment promotion and welfare.¹⁰⁹
- Disaster relief - Ministry of resettlement, ministry of disaster relief, ministry of economic development.¹¹⁰
- Labour market programmes for disaster affected - Ministry of Economic Development.¹¹¹
- Labour market programmes for vulnerable groups-Department of social services and National Secretariat for Persons with Disabilities-Ministry of Social Services, Provincial councils.¹¹²

On 11th March 2020, the World Health Organisation characterized the COVID-19 outbreak as a global pandemic.¹¹³ On 15th March 2020, the Sri Lankan government began taking strict measures to contain and control the spread of the virus including closing borders to inbound passenger traffic, restricting imports, enforcing curfews across the country and enforcing work-from-home practices for both the private and public sector. Curfews were in place in some provinces and districts, until 26th May 2020, when all these measures were relaxed.¹¹⁴

The impact of the COVID-19 pandemic on Sri Lanka's economy has been severe; through disrupting domestic and global supply chains, and reducing the earning opportunities for people. It may take months or years for the country's economy to recover.¹¹⁵

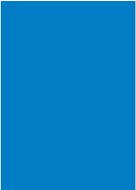
Steps taken by the government during the lockdown, to re-open the agricultural sector including tea, rubber and fisheries, while taking health and safety precautions, helped protect production, employment and livelihoods to a great extent. However, industrial and service sectors, including tourism, came almost to a standstill.

According to a survey of 2764 businesses, by the Department of Labour, in May 2020, 53% of the respondents completely shut down their businesses, whilst a further 44% of businesses were working under capacity. Only 3% were fully functioning. Alarming, a large number of respondents said that they were unable to pay salaries to their employees. These figures just hinted at rising unemployment figures in the country.¹¹⁶

Tourism accounts for 5% of the economy and in March 2020 when lockdown was enforced, the country recorded a 70% drop in tourist arrivals, compared to the previous year.¹¹⁷ As of August 2020, travel restrictions are still in place, continuing to have a strong adverse impact on the tourism sector.¹¹⁸

Foreign remittances, which contribute 8-9 % of GDP, are drastically declining.¹¹⁹ With the increasing number of requests from Sri Lankan migrant workers abroad to return to the country, the government made arrangements to repatriate them, only after ensuring they had been screened for the virus, and quarantined. The Secretary to the Ministry of Foreign Affairs, Ravinatha Aryasinha, said that in April 2020, over 27,000 Sri Lanka's overseas - including 17,000 migrant workers, had expressed a desire to return home. These workers included those who lost their jobs, had completed their employee contract, were underemployed or were at risk of losing their jobs.¹²⁰

Migrant workers, within the country, who were employed as skilled, semi-skilled and unskilled workers in urban centers, had to return home after losing their jobs when businesses shut down. Daily wage labourers lost income due to social distancing and government imposed curfews. A survey conducted by World Vision Sri Lanka among families within their programme areas revealed that 44 per cent of respondents had lost their jobs, with average salaries falling from LKR 24,400 (132 USD) per month to LKR 6,800 (37 USD). The crisis is affecting families with breadwinners employed in both the formal and informal economies.¹²¹



The government responded quickly with emergency support through existing social assistance schemes. Recipients of the existing 'Samurdhi' scheme were given an extra LKR 5000 (USD 27) monthly for April and May 2020, whereas Senior Citizens received an extra LKR 3000 (USD 16). In addition, a new government cash transfer scheme was put in place to assist all self-employed workers affected by the growing economic crisis. The total amount paid out by the government for this programme was around LKR 55 billion (300,000 USD), and it reached an estimated 66 per cent of Sri Lankan households.¹²²

Thus, the importance of social protection schemes in safe-guarding the survival of the most vulnerable was highlighted during the COVID-19 pandemic. Many local and international development agencies, and civil society organizations also assisted affected families by providing cash and in-kind grants. The Central Bank of Sri Lanka also took measures to support businesses to recover by providing loans with minimum interest.¹²³

According to a study done by the credit rating agency ICRA Lanka, Sri Lanka's agricultural sector has been largely immune to the COVID-19 shock. This is mainly because the sector is loosely integrated with global supply chains. In addition, the governments' decision to list agriculture as an essential service during the nearly 3-month lock down period, helped protect the sector to some degree. However, the outbreak of COVID-19 is expected to affect the Sri Lankan agricultural sector to some extent, as a result of supply disruptions of agricultural inputs.¹²⁴

The COVID 19 pandemic provided an opportunity for both government agencies and communities to be more sensitized about ensuring self-reliance of food production within the country and realizing the high risk of depending on food imports. In the midst of the COVID-19 pandemic, the Government of Sri Lanka initiated the 'Saubhagya National Programme' to address the future demand of fruit and vegetables, in the hope of reducing any future threats of food insecurity.

Through the 'Saubagya' scheme, home gardening of grains, vegetables and fruits has been encouraged to better equip the country to face potential future crises such as pandemics and famines. However, as highlighted in the study done by ICRA Lanka, climate induced disasters like drought is another significant threat to the food security of the country.

As evident by this particular study, people are moving out from agriculture in search of more convenient income opportunities than engage in agriculture due to various reasons including climatic factors. Hence, more practical and strategic interventions both at national and subnational level in required to address these challenges to secure the food production of the country in a sustainable manner.

As of August 2020, the country claims to have completely curbed community spread of the virus, with a total of nearly 3000 cases and 11 deaths, but what remains to be seen is the real cost of the pandemic to the economy.¹²⁵

14 Conclusions

This participatory research study clearly demonstrates that climate change has a 'multiplier effect' on the main causes of migration. Slow onset climate change events like droughts due to erratic rainfall on one hand and climate-related disasters like landslides on the other, are forcing farmers and their families to abandon their traditional occupations and migrate away from their homes in search of alternative livelihoods.

Those who are reliant on rain-fed agriculture as their primary means of livelihood, like the villagers of Parangiyawadiya and Gomarankadawala, are becoming more vulnerable to the vagaries of climate change or as in the case of the Aranayaka landslide, are displaced from their homes following extreme weather related disaster.

Most migrants prefer working as daily wage labourers in nearby areas, some go further to big cities like Colombo and few migrate to the Middle East countries. Short term seasonal migration is a predominant feature for agriculturists.

Climate induced migration is causing disturbances in social cohesion and is leading to increased drug and alcohol addiction in the younger generation. Long distances between male migrants and their partners is affecting marital relationships and the wellbeing of the children of these families.

People migrate from one place to another mostly as the last resort. The climate projections show it is likely that in some places, adaptation has limits and people must move to another place. Aranayake landslide site is an example. It is important to ensure that their migration decisions are informed decisions.

Communities in all four sites of the study highlighted the importance of creating alternative livelihood opportunities in nearby town areas. They also mentioned the need for training, capacity building and financial assistance to support those who are self-employed.

In the participatory research and interviews the communities and various stakeholders have outlined what actually can or should be done to avert, minimize and address displacement related to the adverse effects of climate change and disasters. Robust resilience mechanisms are required to minimize displacement and migration. In situations where impacts force people out of their homes, they need to be protected and assisted through strong social protection measures.

People in Parangiyawadiya and Gomarankadawala have stated that they have enough resources in the village but most villagers do not have information to utilize these resources effectively to come out of the economic dilemma they are facing. There are few Samurdhi (financial assistance schemes of Government of Sri Lanka for low-income families), but most of the farmers are not covered by the scheme.

Communities in Anuradhapura highlighted the importance of having customized seasonal and short term climate forecast to plan the cultivations according to forecast to minimize losses. In Aranayaka Division, the villagers identified the need for localized early warning systems and



better town planning after they experienced high intensity cyclonic rainfall that resulted in an unprecedented landslide.

Unfortunately, the authorities are not looking at the issue of climate-induced migration in a holistic manner. There is an urgent need for more research-based information in disaster related policymaking, investment planning, and project formulation to address the threat of climate-induced migration.

There is an urgent need to invest in building knowledge and capacity as well as changing attitudes of the community to utilize the available resources in the villages to generate additional income.

There is a need for updated risk assessment and hazard/vulnerability mapping and dissemination and sharing this information with the communities. The World Bank (2016) highlights that Sri Lanka lacks risk assessment tools that are necessary for investment planning.

Since the majority of internal migration has happened due to economic reasons as a result of a loss of livelihoods, effective dissemination of disaster forecast and early warning is an important factor related to climate-induced migration.

Promoting resilience and climate change adaptation is another crucial need to support the people who migrate as the last resort to survive in their original location. The introduction of climate change adaptation agriculture practices, drought/flood-resistant varieties; introduction of new technology and marketing facilities; access to localized early warning systems, alternative livelihoods, for example, would provide much needed assistance. This support will facilitate to continue their livelihoods even during the adverse weather conditions in their original location.

Social protection can play a complementary role in improving the resilience of people and reducing the government's expenditure after the occurrence of a disaster. Taking an “adaptive” social protection approach is more advisable given the capacity of disaster to undermine the gains of the poverty eradication activities. Even though there are different types of agriculture and disaster insurance schemes available, most of the people in affected communities are not aware of these systems and there are some gaps in implementing those.

A way to address migration is to promote it as an adaptation strategy. Though every effort should be made to ensure that people can stay where they live, it is also important to recognize that migration can also be a way for people to cope with environmental changes. If properly managed, and efforts are made to protect the rights of migrants, migration can provide substantial benefits to both origin and destination areas, as well as to the migrants themselves. However, migrants – particularly low-skilled ones – are among the most vulnerable people in society and are often denied basic protections and access to services. Moreover, migration as a climate change adaptation strategy should aim to create “pulls” to other locations to reduce “push” factors. Such strategies can facilitate out-migration from high risk areas. Identifying suitable destinations, improving the facilities and conditions at the destinations, developing skills and capacities of the potential migrants will promote planned voluntary migration.

Based on the findings carried out in four research location sites, combined with policy review through secondary research and key information interviews, these are the report recommendations:

Local-level Recommendations:

- 1 Raise awareness of, and prepare communities for, the impact of climate change, including future projections.
- 2 Provide skills-training and support entrepreneurship to help communities develop alternative livelihoods and diversify their income opportunities.
- 3 Promote the awareness and understanding of how to access social protection schemes and improve the implementation of these at the local level.
- 4 In situations when relocation is inevitable, the communities must be involved at all stages of planning and implementation of rehabilitation.
5. Introduction of climate smart agricultural practices, disaster resistant crop varieties, efficient water and land management practices and other adaptation practices is important.

National-level Recommendations:

- 5 The National Adaptation Plan (NAP) must go beyond acknowledging the issue of climate-induced migration by making concerted efforts to mainstream it and integrate it into existing policies and practices, including development plans and poverty reduction strategies.
- 6 The government must ensure that national and local budgets across various departments, institutions and mechanisms integrate climate-induced migration.
- 7 Research-institutions shall carry out more targeted, evidence-based, policy-relevant research to capture data and the impacts of climate-induced migration happening in Sri Lanka.

Regional-level & Global-level recommendations:

- 8 Climate-induced migration should be on the agenda of inter-governmental bodies such as South Asian Association for Regional Cooperation (SAARC), Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) & other Asia-Pacific forums.
- 9 Regional bodies and civil society organisations shall collaborate to develop common policies, codes and responses; and promote the sharing of information and learning from each other. to capture data and the impacts of climate-induced migration happening in Sri Lanka.
- 10 Multilateral institutions, such as the Taskforce for Displacement, Global Forum on Migration and Development, and UN Global Compact for Safe, Orderly and Regular Migration, must rigorously work to legally protect and strengthen the rights of climate-induced migrants.
- 11 The global community must provide financial and capacity building support to Sri Lanka to help implement its plans for protecting communities facing climate-induced migration.

16 List of Key Terms

- 1. Address** - (to address displacement) is understood as measures to prepare for and respond to displacement when it happens, including through ensuring assistance and protection for those on the move due to climate change, and seeking lasting solutions. Measures may include: contingency planning, humanitarian relief aid, granting, expediting or waiving visas, non-return policies or reintegration strategies.
Reference: <https://unfccc.int/sites/default/files/resource/20180917%20WIM%20TFD%20I.1%20Output%20final.pdf>
- 2. Avert** - (to avert displacement) is understood as measures to reduce or avoid the risk of forced and unmanaged migration as much as possible. Measures may include: disaster risk reduction, climate change adaptation and mitigation, resilience building and community stabilization.
Reference: <https://unfccc.int/sites/default/files/resource/20180917%20WIM%20TFD%20I.1%20Output%20final.pdf>
- 3. Climate change** - "Climate change" means a change of climate, which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.
Reference: https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf
- 4. Adaptation** - The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects.
Reference: https://www.ipcc.ch/site/assets/uploads/2019/01/SYRAR5-Glossary_en.pdf
- 5. Climate Migration** - The movement of a person or groups of persons who, predominantly for reasons of sudden or progressive change in the environment due to climate change, are obliged to leave their habitual place of residence, or choose to do so, either temporarily or permanently, within a State or across an international border.
Reference: <https://www.iom.int/key-migration-terms>
- 6. Climate-induced migration** - There is no universally agreed definition of climate-induced human mobility, but broadly, it refers to movement of people driven by sudden or progressive changes in the weather or climate.
Reference: <https://www.odi.org/sites/odi.org.uk/files/resource-documents/10996.pdf>
- 7. Distress Migration** – The Food and Agriculture Organisation has defined this as, “All migratory movements made in conditions where the individual and/or the household perceive that the only viable livelihood option for moving out of poverty is to migrate. Such distress is usually associated with lack of livelihood options, given the limited economic and employment opportunities, as well as drought, crop failure and food insecurity.”
Reference: <http://www.gsdr.org/wp-content/uploads/2017/04/HDR1406.pdf>
- 8. Environmental Migrant** - Environmental migrants are persons or groups of persons who, predominantly for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move within their country or abroad.
Reference: https://publications.iom.int/system/files/pdf/iml25_1.pdf

9. Internal Displacement – Refers to the forced movement of people within the country they live in.

Reference: <https://www.internal-displacement.org/internal-displacement>

10. Internal Migration - The movement of people within a State involving the establishment of a new temporary or permanent residence. Internal migration movements can be temporary or permanent and include those who have been displaced from their habitual place of residence such as internally displaced persons, as well as persons who decide to move to a new place, such as in the case of rural–urban migration. The term also covers both nationals and non-nationals moving within a State, provided that they move away from their place of habitual residence.

Source: Adapted from International Organization for Migration, World Migration Report 2015.

Reference: <https://www.iom.int/key-migration-terms>

11. Matrix Scoring – Matrix ranking and scoring exercise is one of the commonly practiced tools in almost all contexts under PRA. It is a tool that can be used to stimulate discussions among people whenever any choices are to be made. It helps to make the decision-making process transparent.

Reference: <https://sk.sagepub.com/books/participatory-ruralappraisal/n15.xml#:~:text=Matrix%20ranking%20and%20scoring%20exercise,the%20decision%2Dmaking%20process%20transparent.>

12. Migrants in vulnerable situations – Migrants who are unable to effectively enjoy their human rights, are at increased risk of violations and abuse and who, accordingly, are entitled to call on a duty bearer's heightened duty of care.

Source: Adapted from High Commissioner for Human Rights, Principles and Practical Guidance on the Protection of the Human Rights of Migrants in Vulnerable Situations.

Reference: <https://www.iom.int/key-migration-terms#Migrant>

13. Minimize - (to minimize displacement) is understood as measures to facilitate safe, orderly and regular migration as part of adaptation strategies to climate change and thus, curb the number of people forced to move by providing alternative livelihoods. Measures may include: ensuring migration pathways via free movement protocols, labor schemes or transhumance agreements; or, as a last resort, planning relocations of people living in high risk areas.

Reference: <https://unfccc.int/sites/default/files/resource/20180917%20WIM%20TFD%20I.1%20Output%20final.pdf>

14. Mobility Mapping – Mobility map is a method used to explore the movement pattern of an individual, a group, or a community. Where people go and for what reason? How frequent are the visits, what is the distance, and what is important about the place visited? Like social and resource maps and transect, the resource map is a representation of people's perception of movement patterns and the reasons for them.

Reference: <https://meas.illinois.edu/wp-content/uploads/2017/02/MEAS-Participatory-Methods-Tip-Sheet-Mobility-Map.pdf>

15. Participatory Research - Participatory research embodies an approach to data collection that is two-directional--both from the researcher to the subject and from the subject to the researcher.

Reference: <https://elibrary.worldbank.org/doi/abs/10.1596/0-8213-3473-5>



16. Paired Comparison Matrix – Paired Comparison Analysis (also known as Pair wise Comparison) helps you work out the importance of a number of options relative to one another. This makes it easy to choose the most important problem to solve, or to pick the solution that will be most effective. It also helps you set priorities where there are conflicting demands on your resources. The tool is particularly useful when you don't have objective data to use to make your decision. It's also an ideal tool to use to compare different, subjective options, for example, where you need to decide the relative importance of qualifications, skills, experience, and team working ability when hiring people for a new role.

Reference: https://www.mindtools.com/pages/article/newTED_02.htm

17. Problem Tree Analysis - Problem tree analysis (also called Situational analysis or just Problem analysis) helps to find solutions by mapping out the anatomy of cause and effect around an issue in a similar way to a mind map, but with more structure.

Reference: <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/6461.pdf>

18. Push and Pull factors - In the study of migration, push factors are those that encourage a population to leave its home, pull factors are those that draw a population to another area or place.

Reference: <https://www.oxfordreference.com/view/10.1093/oi/authority.20110803100355608>

19. Social protection - The set of policies and programmes that aim to reduce poverty and vulnerability and to enhance the capacity of people to manage economic and social risks, such as unemployment, sickness, disability and old age. It includes social assistance programmes, which are not conditional on having previously made contributions (e.g. cash transfers to poor households) – and social insurance programmes³, which are conditional on past contributions (e.g. contributory old-age pensions).

Reference - [<https://www.odi.org/sites/odi.org.uk/files/resource-documents/11583.pdf>]

20. Vulnerability - The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards. Reference: United Nations office for Disaster Risk Reduction

Reference: <https://www.undrr.org/terminology/vulnerability>

17 Annexures

Research Locations:

The study was carried out in the locations outlined in Table 1 below.

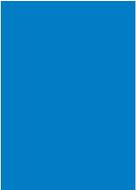
In order to select the locations, the following criteria were considered: typology of disasters, geo-climatic zones, livelihoods of communities, socio-economic profiles, scale of displacement, urban rural spread and presence of local partners to facilitate the research in the field.

	Research Location	Province	District	Divisional Secretary (DS) Division	Agro ecological Zone	Typology of Disasters	Main Livelihood of the residents	No of people participated for the study
1	Prangiyawadiya GND Diyatitawewa GND BandaraKumbukwewa GND	North Central	Anuradhapura	Horowpathana	Dry Zone - Low Country - 1	Drought	Paddy farming	39
2	Gomarankadawala GND Galkadawala GND	Eastern Province	Trincomalee	Gomarakadawala	Dry Zone - Low Country - 1	Drought	Paddy	35
3	A selected GND in Nuwara Eliya DS	Central Province	Nuwara Eliya	Nuwara Eliya	Wet Zone Up Country - 3	Erratic rainfall and changes in atmospheric temperature	Estate workers	37
4	Elangapitiya / Kalugala GNDs	Sabaragamuwa	Kegalle	Aranayake	Wet Zone - Low Country - 2	Landslide	Agriculture (Tea, Home Gardening)	40

Details of the Selected Research Locations

Data collection:

Primary data collection was through the use of a participatory research module, developed by Climate Action Network South Asia (CANSA), ActionAid International and PRAXIS, to carry out this study. The research was conducted by Janathakshan staff members, working closely with the following local partners:



Nuwara Eliya – PALM Foundation, Aranayake – Sri Lanka Red Cross Society, Anuradhapura And Gomarankadawala – Janathakshan (Gte) Ltd

The research was carried out using a combination of data collection methods such as focus group discussions, key informant interviews and by recording case studies from the field. Participatory research tools, such as Problem Tree Analysis, Mobility maps, Paired Comparison matrix and Matrix scoring were used in the focus group discussions in field sites to engage the communities and collect data in the process.

Focus group discussions were conducted with four groups of people per village. For details, see Table 1. Key informant interviews were conducted with relevant local/district government officers, academic experts, village level leaders from each of the selected four locations. The researchers also spoke to relevant private and CSO representatives to supplement and complement the information that had been gathered through focus group discussions.

Secondary data collection was done in the form of a literature review to help inform the background and context to the study, as well as understand related policies, frameworks and institutional arrangements in place already, with respect to climate-induced migration, and to identify gaps.

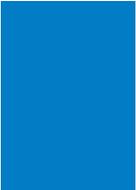
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27. Puranawela is the plot of paddy field lying just below the tank bund, is the oldest irrigated land where almost all descendants of the village have shares
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(ALL OF THE ABOVE SITES WERE ACCESSED ON 13 JULY 2020)



IS CLIMATE CHANGE FUELLING MIGRATION IN SRI LANKA?

**Community Voices
from Anuradhapura,
Trincomalee,
Nuwara Eliya
and Kegalle districts.**