

MAHAWELI WATER SECURITY INVESTMENT PROGRAM

PROJECT PREPARATORY TECHNICAL ASSISTANCE

TA-8633

POVERTY AND SOCIAL ASSESSMENT

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ABBREVIATIONS

ADB	–	Asian Development Bank
CP	–	Concept Paper
DOI	–	Department of Irrigation
EIA	–	Environment impact assessment
ISEWP	–	improving system efficiencies and water productivity
KMTC	–	Kalu Ganga-Moragahakanda Transfer Canal
MASL	–	Mahaweli Authority of Sri Lanka
MDP	–	Mahaweli Development Program
MFF	–	multitranches financing facility
MRB	–	Mahaweli River Basin
MLBCRP	–	Minipe Left Bank Canal Rehabilitation Project
NCPCP	–	North Central Province Canal Program
NWPCP	–	North Western Province Canal Project
PMDSC	–	program management, design and supervision consultant
PPTA	–	project preparatory technical assistance
SIWRM	–	strengthening integrated water resources management
SLPI	–	Sri Lanka Prosperity Index
UECP	–	Upper Elahera Canal Project
WTP	–	willingness to pay

CONTENTS

	Page
I. OVERVIEW	1
A. Introduction	1
B. The Investment Program	1
1. Rationale of the Investment Program	3
II. KEY MILLENNIUM DEVELOPMENT GOALS	4
A. Poverty Alleviation and Community Health	5
B. Water Poverty and Vulnerability	7
III. SOCIO-ECONOMIC AND DEVELOPMENT SETTING	8
A. Social Structure and Organisation	9
1. UECP and NWCP	9
2. Minipe Colonisation Scheme	9
IV. POVERTY: CHANGING PERCEPTIONS	10
A. Income Groups	10
1. The Rich	10
2. Middle Class	11
3. Poor	11
4. Extremely Poor	11
B. How First Generation Feels Poverty?	11
C. How Second and Third Generations Feels Poverty?	12
V. GENDER DIMENSION OF POVERTY	13
VI. LIVELIHOOD SOURCES	15
A. Household Income	17
B. Household Expenditure	19
C. Housing	20
VII. ANTICIPATED PROJECT BENEFITS AND ADVERSE IMPACTS	21
A. Employment Opportunities	21
B. Increase in Agricultural Production	21
C. Health and Water	21
D. Application of Labour Laws	21
E. Social impacts of Construction Activities	22
F. Impacts on Community Health and Safety	22
TABLE 1: WATER, POVERTY, AND THE MILLENNIUM DEVELOPMENT GOALS	4
TABLE 2: INVESTMENT PROGRAM AND MILLENNIUM DEVELOPMENT GOALS	6
TABLE 3: EMPLOYMENT STATUS OF PROJECT-AFFECTED HOUSEHOLDS	16
TABLE 4: EDUCATIONAL LEVELS OF PROJECT-AFFECTED PERSONS	17
TABLE 5: MONTHLY INCOME OF PROJECT-AFFECTED HOUSEHOLDS (SLR)	18
TABLE 6: PROJECT-AFFECTED HOUSEHOLDS WHO RECEIVE SAMURDHI ALLOWANCES	19
TABLE 7: AVERAGE ANNUAL HOUSEHOLD EXPENDITURE (SLR) (N= 48 HOUSEHOLDS)	19
TABLE 8: TYPES OF BUILDINGS AND FACILITIES	20

I. OVERVIEW

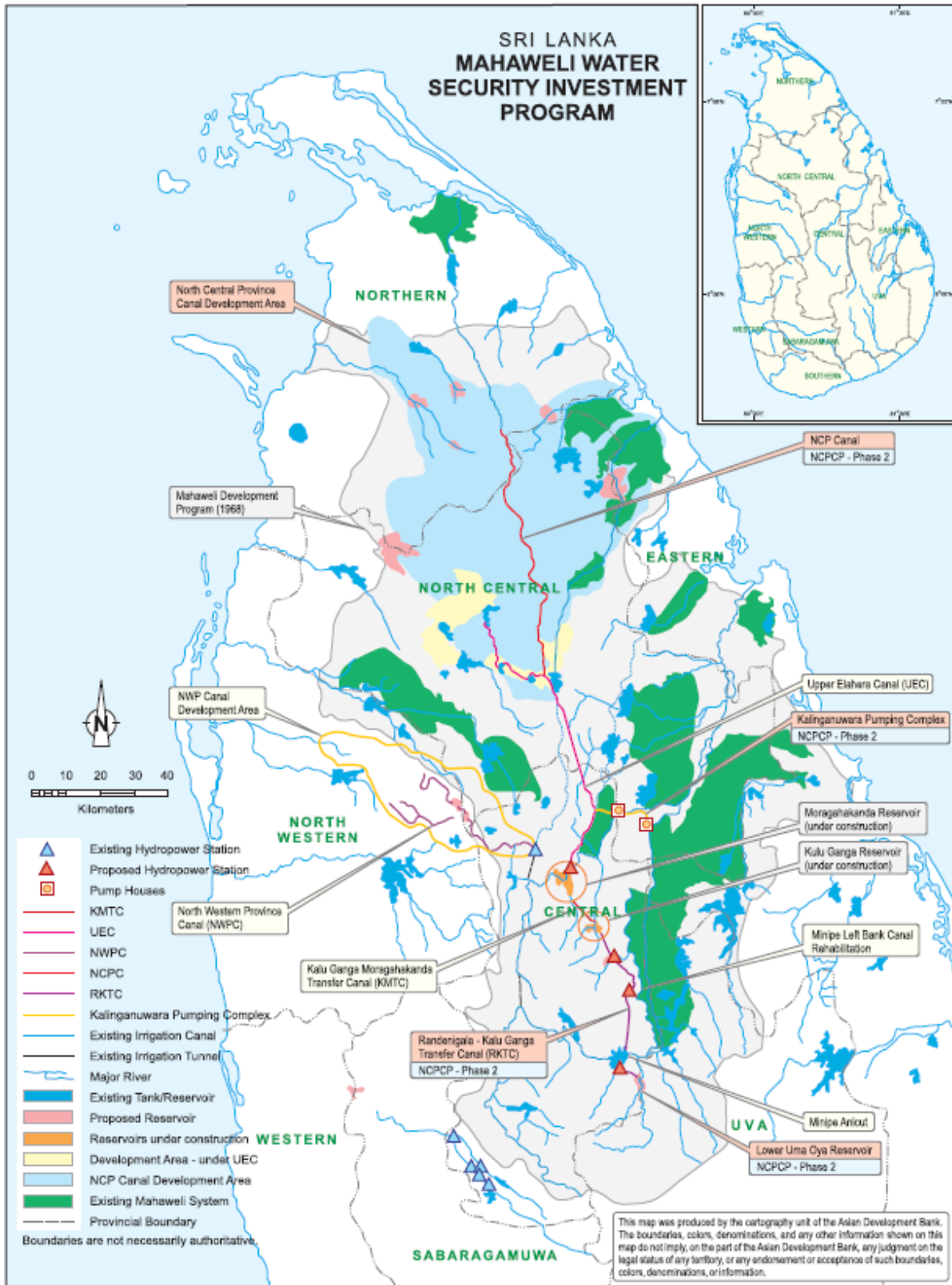
A. Introduction

1. This report analyses social and poverty dimensions of the communities who live in the proposed project areas of the Mahaweli Water Security Investment Program (“investment program”). This Poverty and Social Assessment (PSA) covers three investment projects of investment program, namely: the Upper Elahera Canal Project (UECP), North-Western Province Canal Project (NWPCP), and the Minipe Left Bank Canal Rehabilitation Project (MLBCRP). It is based on the findings of pre-feasibility socio-economic surveys, resettlement census, environmental field surveys, and academic studies that have been conducted in the project areas in the recent past to examine opportunities, constraints, and potential social impacts of the proposed projects on affected communities. Poverty and social impacts are considered in a broader context taking the communities in the project areas as the scope of the report because the data and information collected from a narrow and linear canal trace are inadequate to elicit poverty patterns and social organisation in affected communities, and the impact of economic opportunities that the investment program will provide to overcome poverty and vulnerability. The main focus of the report is on the NWPCP and UECP. This is because the two projects will directly be impacted by land acquisition, displacement and loss of sources of income and livelihood. The benefits that will accrue to them from the investment program are not site-specific. The MLBCRP, on the other hand, will have direct positive impacts because of the refurbishment of the Left Bank Canal, although some farmers will experience temporary crop losses. Community level poverty and social dimensions of the communities are broadly similar in the three projects. Therefore, most of the findings of NWPCP and UECP are applicable to MLBCRP as well.

B. The Investment Program

2. The investment program will assist the government to complete outstanding water conveyance investments under the Mahaweli Development Program (MDP). The completion of MDP is a key priority of the government, as it will maximize the productivity of the water sources of the Mahaweli River Basin by transferring water to water-deficit areas in the northern dry zone for irrigation, drinking, commercial, and industrial purposes. This will, in turn, accelerate local and national economic growth and living standards of local people by providing opportunities and resources to improve their household incomes and food security.

3. The investment program focuses on water scarcity, food security, and poverty issues in project-affected areas. It aims to provide better and secured irrigation water supply enabling the cultivation of most of paddy land in both Maha and Yala seasons in each year, thereby improving incomes of farming households who constitute more than 90% of project-affected households (PAHs). It will also provide drinking water to water-deficit areas, particularly to North Central, North Western and Northern Provinces. By improving irrigation facilities and increasing drinking water supplies, the investment program will directly deal with poverty, food security, environmental degradation, and poor health of the people in the dry zone of Sri Lanka. The project areas of the investment program are shown in Figure 1.



1. Rationale of the Investment Program

4. Water is the principal medium in the dry zone of Sri Lanka through which climate change exhibits its environmental, economic, and social impacts. Many communities are vulnerable to droughts and other water-related disasters such as floods which destroy lives, assets and incomes. Moreover, the widespread chronic kidney disease threatens the lives of rural populations of the northern dry zone. The risks associated with climate uncertainty and change can be mitigated by storing and distributing water wisely when it is scarce, and by planning ahead to protect communities from droughts and floods. Coping with water-related risks requires the collective involvement and broad planning. The investment program addresses these key development issues (Table 1).

5. No new lands are identified for irrigation by the investment program (although some existing lands will become officially part of the service area of the Mahaweli Scheme, which therefore increases). The main benefit of the investment program will be increased cropping intensity of existing cultivated lands under major and minor irrigation schemes. In addition, the investment program will provide safe drinking water to a large population which suffers now from drought and the lack of safe drinking water.

6. Providing safe drinking water and managing water resources wisely will improve health of the people in the dry zone, and open opportunities for them to improve their income sources and livelihoods. In many poor communities, fetching water from distant sources and queuing for water are physically-demanding and time-consuming responsibilities borne primarily by women and girls. Women as a result, have less time to engage in productive activities, while in case of young girls, school attendance is often considered a lesser priority. A gender bias that creates an imbalance in school enrolment ratios has been noted in the project areas, although the imbalance has been progressively declining. Disparities in women's education and involvement in decision-making can disadvantage them in earning an income or voicing their views on affairs of their community. By improving living standards and providing water for domestic use, the investment program will enhance the quality of life of women. Income restoration and improvement strategies of resettlement programs under the investment program will pay special attention to women, especially to vulnerable women.

II. KEY MILLENNIUM DEVELOPMENT GOALS

7. The key Millennium Development Goals (MDGs) applicable to the investment program are the goals for poverty alleviation, elimination of hunger, environmental sustainability, and gender equality. The MDGs provide a broad operational framework for poverty and social assessment (Table 1).

Table 1: Water, Poverty, and the Millennium Development Goals

Millennium Goal	Direct Impacts of Investments in Water Supply	Indirect Impacts of Investments in Water Supply
<p>Poverty:</p> <p>To halve the proportion of the poor whose income is less than \$ 1/day per person</p>	<ul style="list-style-type: none"> • Improved water supply for homestead gardening, irrigated agriculture, industry and for other economic activities • Investments in water infrastructure and services act as a catalyst for local and regional development 	<ul style="list-style-type: none"> ▪ Reduced vulnerability to water-related hazards boosts investment, production and development ▪ Reduced ecosystem degradation boosts local-level sustainable development ▪ Improved health from better quality water
<p>Hunger:</p> <p>To halve the proportion of the people who suffer from hunger</p>	<ul style="list-style-type: none"> • Irrigation water expand grain production • Reliable water supports subsistence agriculture, livestock, and tree crops • Sustainable production of fish and other foods gathered in common property. 	<ul style="list-style-type: none"> • Ensure ecosystems integrity to maintain water flows to food production • Reduced urban hunger by cheaper food grains from more reliable water supplies for irrigated agriculture in rural areas
<p>Environmental Sustainability:</p> <p>To stop the unsustainable exploitation of natural resources and to halve the proportion of people who are unable to reach or to afford safe drinking water</p>	<ul style="list-style-type: none"> • Improved water management, including pollution control and sustainable levels of abstraction, key factors in maintaining ecosystems integrity • Supply of safe and adequate drinking water for poor and poorly-serviced communities. 	
<p>Gender Equality:</p> <p>Equality and empowerment of women should be demonstrated by ensuring that girls and boys have equal access to primary and secondary education</p>		<ul style="list-style-type: none"> • Women's participation in community-based water management improves social capital of women. • Improved domestic water supplies reduce time and health risks of women and allow more time for women to engage in income earning activities. • Balanced gender roles

Source: Asian Development Bank, 2003

A. Poverty Alleviation and Community Health

8. Investment in water infrastructure and services is a catalyst for development and poverty alleviation (Table 2).

- Reduced ecosystem degradation makes livelihood systems more secure.
- Improved water services increase employment opportunities to local communities because of secured and regular cultivation of land.
- Community-based organisations for water management will improve the social capital of women by promoting their leadership, networking, and building solidarity among them which leads to their empowerment.

9. Responsible water resources management protect physical environment and improve health and wellbeing of the community (Table 2).

- Better water management reduces mosquito habitats and lowers the incidence of water-borne diseases.
- Safe drinking water and basic sanitation help prevent chronic kidney disease and other water-related diseases.
- Reliable drinking water supplies and improved water management in human settlements reduce transmission risks of malaria and dengue fever, and can reduce biological pathogens and chemical hazards.
- The investment program facilitates reconciliation of upstream and downstream water-user arrangements.
- Biodiversity conservation combats desertification of land.
- Careful use of water resources help prevent surface and ground water contamination and minimize water treatment costs

10. Socio-economic development, education and empowerment start with a healthy and safe community (Table 2).

- Water-related illnesses cause health costs that can claim much of the household income of the poor. At present, in the dry zone, kidney diseases are quite widespread. Better domestic water supply is the key to overcome this threat.
- Household livelihoods depend on income-producing members; adults who are ill themselves or who are caring for sick children are less productive. Malaria takes up a significant proportion of productive time from households.
- Water and sanitation facilities located closer to homes reduces the risk of sexual assault on women and girls when gathering water and searching for privacy. Better health improves school attendance rates among girls and boys.

Table 2: Investment Program and Millennium Development Goals

Millennium Development Goal	Applicability to the investment program	How it could help achieve the goal	Comments
1. Eradicate Extreme Poverty	Yes	Having a sustainable, safe water supply, and begetting from its economic opportunities such as better and secure irrigated agriculture help break the vicious circle of poverty	Key objective of the investment program
2. Achieve Universal Primary Education	Yes	A safe and secure water supply helps boys and girls to stay at school, and enables women to participate more actively in income generating activities and in their community activities	One of the investment program's broad development goals
3. Promote gender equality and empower women	Yes	See above.	See above
4. Reduce child mortality	Yes	Safe drinking water and improved sanitation are central to health and well-being of children and their parents.	See above
5. Improve maternal health	Yes	See above	See above
6. Combat HIV/AIDS, malaria & other diseases	Yes	See above	See above
7. Ensure environmental Sustainability	Yes	Better management of water resources lessens pollution and improves water conservation towards ensuring sustainable, life-supporting ecosystems.	Key development goals of the investment program
8. Develop a global partnership for development	Yes	Water knows no political or ethnic boundaries and is especially vulnerable to human impacts. The investment program works with people and agencies to use this irreplaceable resource wisely	Contribute to deal with vulnerability of communities regardless of their ethnicity and class.

11. Improved water services free up time for productive activities – especially for women and girls (Table 2)

- Women and girls are the primary collectors of water and primary carers for sick household members.
- Time women lose for other productive activities contribute household poverty.
- Reducing these burdens enables more girls to attend primary and secondary schools and increases more women to participate in adult education, community activities and organizations, and leisure activities.

B. Water Poverty and Vulnerability

12. Fighting poverty is the main challenge for achieving equitable and sustainable development. In this regard, water plays a vital role in relation to human health, livelihoods, economic growth as well as sustaining ecosystems. According to Global Water Partnership, the 'water poor' households share the following characteristics:

- Their natural livelihood base is persistently threatened by drought and floods.
- Their livelihood depends on cultivation of food and their water sources for agriculture are not dependable or sufficient.
- Their natural livelihood base – land – is subject to erosion and degradation.
- Living far from a year-round supply of adequate drinking water
- Spend a relatively high proportion of household income on water
- Their water supply is bacteriologically or chemically contaminated, and they cannot afford to have access to alternative water sources.
- Living in areas with high level of water-associated diseases without means of protection
- Women and girls spend hours in a day collecting water, putting their security, education, productivity, economic stability and nutritional status at risk.

13. The strong linkages between water and poverty are evident in the dry zone. Agricultural production either for subsistence or sale is the main livelihood in rural areas of the dry zone. The poor also depend on water-based resources such as fresh water fish, aquatic plants and roots in meeting their food needs. Furthermore, water-related diseases spread with floods jeopardizing the health conditions of the local people. Also land degradation including water logging and salinity, water pollution burden the poor.

14. Agricultural intensification, a key objective of the investment program, through provision of better irrigation is considered as a key strategy for poverty reduction for several reasons:

- It improves security of productivity, economic stability, employment opportunities, and income of farming households and farm wage labour;
- It creates linkages and multiplier effects for the wider economy;
- It provides opportunities for diversification of rural livelihoods
- It allows multiple use of irrigation water supplies
- It improves food security at the household level

15. In the above context, it is important to recognize that irrigated farming varies widely in its form and inputs, and has diverse local attributes and impacts. Therefore water resource management decisions are to be based on a holistic and livelihood-centred assessment of irrigation benefits and costs that go beyond the object of food production. The significant risk in this regard is that badly designed and managed irrigation system could negatively impact on poverty and food security.

III. SOCIO-ECONOMIC AND DEVELOPMENT SETTING

16. The planned development efforts in the dry zone can be traced from the settlement schemes implemented under the policy of 'state-aided land colonization'. 'Colonisation' is defined as the settlement of peasants outside their native villages in small family-sized farms'. Those who moved into colonisation schemes were voluntary migrants from the poor segment of the population, particularly, in the wet zone. Colonisation schemes are also known as 'land settlement schemes' and 'land colonization schemes'. Prior to the implementation of the state-aided colonisation scheme strategy, the dry zone remained unattractive to people from outside because of its harsh climate, remoteness, and the prevalence of malaria.

17. The Land Development Ordinance (LDO) of 1935 created a new tenure system to lease land on long-term basis to settlers in the colonisation schemes. Land was distributed with some limits imposed on the user with regard to land use, subdivision, sale, mortgaging or transfer. Governments, since then allocated state land for the poor and landless under several land development programs: colonisation schemes, special project schemes, village or land expansion schemes, middle-class alienation schemes, marginal land alienation schemes, youth colonisation schemes, highland settlement schemes, and cooperative farms. The land affected by the Upper Elahera Canal Project (UECP) falls under the category of highland settlement scheme, where the poor landless were given highland un-irrigated land to develop a homestead and a rain-fed farm. The land affected by the North-Western Province Canal Project (NWPCP) falls under the categories of highland settlement schemes and marginal land alienation schemes. The Minipe Land Colonisation Scheme falls under the category of colonisation scheme. The Minipe Colonisation scheme provided irrigated land allotment and a highland un-irrigated allotment to each chosen settler-household.

18. Voluntary migrants from the wet zone to the dry zone preferred irrigated landholdings. The government to encourage them to move to the dry zone gave them the priority in allocation of land in colonisation schemes and provided basic infrastructure and 'survival assistance', enabling them to start their lives in the new settlements. Among the push factors was the desire of landless, poor farmers to own paddy land, by which they could acquire a better social status.

19. The attempts at developing the dry zone through colonisation resulted in the productive utilisation of a large proportion of state-owned land which previously remained under-utilised and uncultivated. Following the Independence in 1948, investment in irrigation works in the dry zone has intensified. This policy was culminated in the Accelerated Mahaweli Development Program (AMDP). It is the largest and the most ambitious multipurpose integrated project undertaken in the country to date.

20. The AMDP introduced an advanced form of land development planning in Sri Lanka. In contrast to previous colonisation schemes, the AMDP was planned to create clustered settlements. The four-tier hierarchy, consisting of hamlets, villages, area centres, and townships shows the order of key locations in a settlement. It was expected that the townships would function as 'growth poles' and benefit the 'hinterlands'. The project included 13 systems designated alphabetically from A to M in order to make the administrative functions easier. The Moragahakanda and Kalu Ganga reservoirs are the two last large reservoirs under the AMDP, and the investment program will facilitate the completion of the conveyance of the water of the two reservoirs to Central, North Western, North Central and Northern Provinces to provide irrigation water and domestic water to drought-prone remote areas in the dry zone.

A. Social Structure and Organisation

1. UECP and NWCP

21. The Upper Elahera Canal and North Western Canal Projects will traverse through scattered *purana* (old or traditional) villages and LDO settlements. The Minipe Colonisation Scheme was built in a similar landscape. It has its own settlement pattern which is characterised by irrigation canal network, clusters of homesteads, common lands and large-scale encroachment on canal reservation land.

22. The title *purana* village signifies their continuity over a long period of time. Relative to comparable rural communities in the wet zone, *purana* villages in the dry zone remain sparsely populated with a mean population size of 300 distributed in about 60 households. The communities are widely scattered; each community is surrounded by a stretch of jungle used by local people to do slash-and-burn cultivation known as *chena* farming. Only a few *purana* villages in the Project areas have small village reservoirs to conserve rainwater for paddy cultivation. They are drought-prone and as a result, especially in the Yala season encounter loss of crops, and food insecurity. The operation and maintenance of such village reservoirs are done by villagers themselves displaying their communal organisation and interdependence for survival. During droughts, when water level in a village reservoir drops, the extent of paddy land each farmer is permitted to cultivate is reduced in proportion to the size of his landholding under the *bethma* system (proportional division of available water in the reservoir among the shareholders). It allows the utilisation of water in a limited cropping area for the benefit of the entire community).

23. Each *purana* village is a single caste population unified through kinship bonds. Interactions across village communities traditionally took the form of exchange of goods and services based on caste-related livelihoods such as blacksmith, tom-tom beaters and potters). The local ecosystem inclusive of man-made irrigation works largely determined the nature of social organisation of a *purana* village and its relative stability.

2. Minipe Colonisation Scheme

24. The Minipe Colonisation Scheme (MCS) is one of the major colonisation schemes in Sri Lanka and one of the oldest. After 1978, it has become part of the Mahaweli Development Project. The MCS has evolved from the 1930s with a linear expansion of land area that cultivated with irrigation supplies of the Minipe Left Bank Canal (MLBC). The MCS has four phases of settlement. Settlers in phases I and II received large allotments ranging from 5-8 acres of highland and irrigated lowland. The size of allotments became smaller (1.5 paddy land and 0.5 highland) as the MCS expanded into its III and IV phases. Settlers were brought in from far away locations. They were settled as clusters enabling them to continue their social and cultural contacts without much disruption. This reduced the initial social adaptation problems.

25. The MCS benefitted from the Protected and Guided Colonisation Policy of the 1930s and the Special Projects Schemes introduced in the 1960s. From the late 1970s, it has been assisted by the AMDP. Initially MCS moved towards commercial farming thereby increasing household incomes. Later, this process has been affected by heavy land fragmentation, illegal land transactions, and encroachments. As settlers of a 'special project', Minipe farmers received a variety of incentives from the state in the 1970s and 1980s to improve their cultivation practices. But most of such incentives were captured by influential farmers leaving many settlers, especially the poor settlers, at the subsistence level. Illegal land transactions within the Scheme have created a group of affluent settlers. The degree of disparity in livelihoods between the poor settlers and the rich settlers has increased. The poor settlers increasingly depend on the

affluent settlers for livelihood and survival. For the majority of settlers, especially for the third generation and fourth generation farmers, it is an experience of going back to the traditional purana village subsistence economy which is characterised by land fragmentation, landlessness, and unemployment.

IV. POVERTY: CHANGING PERCEPTIONS

26. The government has used the dry zone colonisation schemes to raise the living conditions of the rural poor. This development strategy has been implemented under the name of 'colonisation' during the pre-Mahaweli period and focused on the development of agriculture, especially paddy cultivation, in the dry zone. The AMDP took that strategy further to promote rural development and alleviate poverty through diversified agricultural development.

27. Today, agriculture-based livelihoods are becoming less attractive especially among young villagers and settlers. They actively respond to poverty in the changing socio-economic and political context. At the same time, how they respond to poverty is determined by several factors, ranging from personal motivation for a better life to opportunities and constraints framed by local and global socio-economic and political environment. Livelihoods of most households have been replaced or supplemented by remittances from women working in the Middle East, free trade zones in the Western Province, youth working in the private sector and soldiers working in the security forces. Such changes in livelihoods generate changing perceptions of poverty, opportunities, constraints, capabilities, and vulnerabilities in uncertain local and global contexts.

A. Income Groups

28. Villagers in settlements and villages, especially second and third generation (and fourth generation in MCS) settlers tend to categorise their fellow villages and settlers into broad classes or income groups. These classes are based on multi-faceted criteria. First, they differentiate pohosath (the rich) from duppath (the poor). Then they identify a group in between called madhyama panthiye aya (those who belong to the middle class). They again subdivide the poor into two further categories: duppath aya (the poor) and ithamath duppath aya (vulnerable or extremely poor).

29. The above wealth ranking ascribes several characteristics to each 'class':

1. The Rich

30. The rich are those who own large landholdings and other assets such as tractors, cars, large houses and homesteads. They engage in business and trade, and maintain good links with the market, locally powerful politicians, government officers, local money lenders and mill owners. They are well travelled people with a variety of household assets to indicate their luxury living. Liquor sellers and money lenders are also considered as rich. Some government servants who owned paddy land are also identified as rich.

31. They control social and political resources in the communities and hold prominent positions in village and regional organisations. Their children attend good schools in nearby towns and cities. The rich also employ others to help them with housework, and provide seasonal employment in their paddy lands and highlands.

2. Middle Class

32. The middle class consists mostly of government servants and farmers who own highland and paddy lands, owners of shops in the settlements, Middle East migrants, and small-scale money lenders. Many of them own well-built spacious houses, possess good educational background, and enjoy a good quality of life. Having a regular pension is also an indicator of middle class, as it provides future security.

3. Poor

33. The poor are the households which do not own land; mortgaged their land; and engage in casual work in agricultural or non-agricultural sectors to earn a living. Poor encroachers, disabled, female-headed households and alcoholics also fall into this class. The poor consists mainly of landless farmers and labourers who do not have good houses to live in and have more dependents or large families. They do not have a good educational background, and often are not in good health. The poor houses are small and poorly furnished; these households have more children. Most of them are poorly educated and engaged in informal wage earning activities.

4. Extremely Poor

34. The unemployed and those who are in debt belong to this class. They live *in temporary huts and do not have proper clothes to wear*. They engage in *ad hoc* or seasonal work. Elderly people without anyone to look after them; those who cannot find their day's meal; patients; women-headed households with many dependents also fall into this class. The poorest have similar attributes to the poor, though in many respects they are worse off than the poor. Having a large family was previous considered to be a sign of wealth in agricultural settlements. However, with the changing production patterns and decreasing land resources, it is now mainly considered a burden among the poor. In the Samurdhi program, which was a national poverty alleviation program, extremely poor has defined as economically non-productive group.

35. In all three project areas, one could find at least three generations of settlers and villagers. Each generation has its own parameters of perceiving poverty. Such perceptions also vary according to age, gender, employment, marital status, and migratory experience.

B. How First Generation Feels Poverty?

36. *Reduced capabilities* are the key factor that contributes to their poverty. Declining health contributes to the creation and perpetuation of poverty in old age. After several decades of hard work in harsh weather, most of them have entered old age with chronic illnesses. They started their lives in a harsh social and physical environment, which most of them have become accustomed to. The health dimension is also related to gender. While many of the first generation men engaged in land cultivation, women had many other responsibilities. They worked on family farms (unremunerated), looked after their children, and performed household duties from dawn to dusk. Their mobility outside the settlement or village was constrained by their different gender roles and gendered responsibilities. Compared to men, they have spent their youth working hard. Unlike men in Sri Lankan rural society, women depend greatly upon social and familial networks for their survival. The departure of children, especially daughters, on marriage or employment increases their household chores.

37. Access to Land: Many first generation settlers are gradually losing their access as they hand over their land to their sons to cultivate. Although they are forced to hand over their responsibilities and assets to their next generation, they expect their children to listen to their

advice. Losing access to land is losing power which pushes them to a marginal position at home and in the community.

38. **Gender:** In settlements and villages, the gender dimension of old age poverty has become a critical issue because of the land inheritance laws which create unequal property relations between men and women. The legal inheritance of land always favoured men, as they have been identified as heads of households. This has left many women in a vulnerable position as their access to land depends on their relationship with male landowners. In Sri Lanka, due to its high level of human development compared to other countries in the region women tend to live longer than their husbands. Consequently, they experience poverty well into old age. Along with old age, if such women become separated or widowed they become poor and vulnerable.

39. **Deterioration of Culture, Tradition, and Moral values:** Elderly people are worried when they are not in a position to fulfil their family or social roles and obligations. They expect that the community should listen to their voices too. In villages, they could regain power through their participation in social and religious institutions. Traditionally, older people served as village headmen and senior priests at the temples, where they received deference from others. However, this pattern of recognition is changing. External social and economic changes have gradually filtered into the settlements in the form of 'new money' fuelled by new job opportunities. As a result, village traditions and culture is being replaced by modernity. As stated earlier, older women are particularly vulnerable to poverty in the absence of their husbands or other family members. The situation is worsened in the colonisation schemes as access to land, the main productive resource, is constrained by inheritance laws. Many of them feel insecure, fearful, stressed and desperate. Along with these dimensions, alienation has also been identified as a dimension of poverty.

40. **Feeling Lonely: Alienation:** Many first generation settlers face different types of alienation due to the changing socio-economic context of their settlements. The second and third generations are gradually moving away from agricultural employments and making their living mainly from non-farm activities outside their villages or settlements. This creates a vacuum in the old age security of those who remain in the villages or settlements as elders.

C. How Second and Third Generations Feels Poverty?

41. **Employment:** Unemployment and under-employment have become a serious issue in many dry zone settlements and *purana* villages. The lack of employment or under-employment is considered as the main cause of poverty. For the youth, poverty is basically about not having an employment. Most of them believe that they have been deprived of their fair chance of tapping employment opportunities in the government sector, as they do not have access to higher education, technical and vocational education, compared to those living in the urban areas.

42. **Lack of opportunity:** The perception of poverty is directly related to the ability to participate in local markets. The villagers and settlers cannot access national labour markets due to their low capabilities, or low human capital. Many of them are not educated to a sufficiently high level to secure a well-paid job in the government or private sector. At the same time, many of them are not in a position to negotiate jobs in the labour market in their respective regions, as jobs are often controlled by politicians and distributed based on political patronage.

43. **Education:** Poverty in the dry zone is also linked to education. The first generation of settlers did not achieve much in terms of education, and some did not even attend school. Although at that time they did not appreciate the importance of education, they now regret it due to their inability to read and write. The second and third generation have done much better than

their parents in schooling. But the lack of teachers for key subjects such as Mathematics, Science and English and the poor quality of teaching, teacher absenteeism, and distance to schools are important factors that influence their ability to get a better education. Many villagers cannot afford to send their children to town schools. In rural areas, because of the lack educational infrastructure, many children do not study at least up to the GCE (O/L) – grade 10. The settlers are worried that their children also would fail to secure employment opportunities because of the low level of education they receive.

44. Housing: Housing is a dimension of poverty. It is identified in terms of the quality and the ownership of land where the house is built. Many settlers have built their houses on encroached land. Currently, the quality of housing is measured in terms of the construction materials used. Most households feel the need to build a brick-walled house. Women who migrate to the Middle East or who work in garment factories and men who work in the army have better houses. According to them, mobility and the influence of media are some of the factors that have influenced their desire to have better housing.

45. Land: The lack of land or access to land is another dimension of poverty. Scarcity of land for agriculture has become a significant problem in projects areas. Population increase is frequently linked to land fragmentation, as noted in MCS. Landlessness and the lack of fertile, well irrigated land were also identified as important dimensions of poverty. Second and third generations do not place much emphasis on land as a dimension of poverty. As income from agriculture has increasingly being replaced by income derived from non-agricultural activities, land was not seen as an important factor. The first generation perceives poverty in terms of losing their control over land which results in the loss of power too. The second and third generations are not attached to the land of their parents. But they are hopeful that the government will give them freehold title under the Jayabhoomi and Suwarnabhoomi Land Grant Programs. On such land, they expect to develop non-agricultural businesses and trade.

46. The multi-dimensional and complex nature of poverty is confirmed from the above perceptions of different generations of settlers and villagers. The perceptions of what constitutes poverty are wide ranging in the project areas. Their perceptions vary according to generations, especially in the way they rank the poverty dimensions. Their perceptions of poverty are linked to the changing social perceptions of poverty in the wider society which, in turn, are influenced by their increasing links with the outside world at the national- and global levels.

V. GENDER DIMENSION OF POVERTY

47. Despite their poverty and lifecycle changes, the women, especially second and third generation women, were found to be shouldering the burden of providing for their families. This is not to say that women of the first generation have become passive. They too contribute to the wellbeing of their own families and their children's families. The women of second and third generations are building homes, buying productive resources, educating their children, supporting their extended families, contributing the local community, and had become more 'powerful' than the first generation women. They had become active agents of change, exploiting the available opportunities despite the constraints. This is evident in their increased presence in rural organisations such as farmer organisations, rural development societies and death donation committees. They not only are members of such organisations but also on many organisations hold executive positions such as president, vice president, secretary and treasury.

48. The different ways in which women contribute to save their families from poverty are not only stories of success but also sacrifices, hard work, powerlessness, vulnerability, and isolation. Whether these women would be able to (i) continue to save their families and

themselves from poverty?; (ii) enjoy their power at home and in the community in a sustainable way?; and (iii) achieve various other aims in their lives? Are important questions, as settlers' subsistence and survival sources depend upon several unstable, unpredictable and threatening contexts? Secured income from homesteads and paddy fields served by irrigation water will release them from subsistence level of living to explore better opportunities to improve their income and social mobility. This is one of the objectives of the investment program.

49. Women in settlements sustain their household economy by engaging themselves in various livelihoods. Generally men's perception of a 'livelihood' is related to their day-to-day income earning activities. In contrast, many women hold the view that a livelihood is not only about making a living, but also a 'good' life at a stable household. The 'good life' component is reflected in their perceptions of poverty and is the rationale behind what they are doing today.

50. Triggered by various socio-economic factors, women, especially young women, are gradually moving out of their households in search of employment elsewhere. Employment opportunities are changing traditional gender roles and relations at both household and community levels. Finding livelihood opportunities outside village communities and settlements is not without constraints. While some young women found employment in the garment factories, young men found employment opportunities in the security forces and in the booming construction industry. They also get a few informal sector employment opportunities which do not demand specific high skills or educational qualifications. However, for the middle-aged, married women and men, employment opportunities are very limited, as the garment industry, construction work sites, and security forces require young people. Faced with poverty and fewer opportunities for paid work both within and outside the settlements, some married women have migrated to the Middle Eastern countries with a conscious choice to break the vicious cycle of poverty. Compared to other sources of locally earned income, this avenue provides an attractive income for women who are able to migrate.

51. Compared to the situation a couple of decades ago, women now participate more in household decision-making in the project area, especially in the MCS. Previously even in wealthy families women did not have the power to make important decisions regarding agricultural activities, even though they were knowledgeable on the subject. This situation has changed considerably now. In the context of the Middle East migration, work opportunities in urban garment industry, and who controls remittances from the Middle East are evidently critical for understanding changes in gender relations.

52. Their mobility outside their homes and the interaction with people outside the settlements and village communities improve women's knowledge in investing their income in profitable economic activities. This change in attitude and relationships can be compared with that of women who are working locally. Especially the first generation men and women believe that women who locally find work could maintain a better family life than those migrated. In general, locally employed women are respected more in the local society compared to migrant women.

53. Women who are employed outside their communities have more decision-making powers over matters relating to their family life than those women who are locally employed. Economic power of women who have migrated out of the communities to engage in employment has started to affect the social image of men in village communities, especially in settlements in a negative way. Prolonged absence of women who work in the Middle Eastern countries or in urban garment factories has compelled some men, especially husbands, to take full responsibility for the tasks previously performed by their wives or sisters.

54. Most men who remain at home while their wives and sisters employed in places away from the community or country find that they cannot cope with housework, especially if they have young children to care for, and also to search for work or to cultivate small pieces of land. Some of them have withdrawn from making any economic contribution to the family after their wives have become the major providers. Local community do not hold such men in high regard. This shows how men's social position in communities deteriorates when they become dependent on their wives' and sisters' incomes. In some cases husbands spend money earned by their spouses on drinking and gambling and it leads to family disorganization and poverty.

55. Investment decisions relating to remittances depend on several factors such as the economic situation of the recipient family, the migrant's marital status, and their position in the family. Also the priority in investing remittances changes with life course changes. In the case of married women, migration is associated with building a house. Most of them want to have a regular source of income and to escape poverty. It is apparent that escaping poverty is not only about earning money but also about having their own home, buying land, saving money, educating children and securing a better future.

VI. LIVELIHOOD SOURCES

56. Although the livelihood resources have been multiplied and gender dimension has gone through changes, land remains the main source of income of the majority of households. In the three project areas, the main attraction for outsiders to arrive in the areas is land. When land is combined with irrigation water, the recipients of such land are considered as fortunate by others and by themselves. In MCS, from the 1930s, thousands of landless poor families arrived in phases on receipt of irrigated land and un-irrigated homesteads from the State. In the UECP and NWPCP, the arrival of settlers began in the 1970s, culminating in the 1990s. Such settlers are less fortunate, as they did not get irrigated landholdings to cultivate upon arrival in the area. The purana village communities by that time had unviable landholdings owing to land fragmentation. In this context, it is possible to identify several land tenure types in the project areas:

- **Private titled deeds:** The private land deeds are registered at the Land Registry under the Act of Registration of Documents. A deed can be transferred to any person through sale or lease or rent on agreed terms between the parties in front of a Notary Public. Such land are found in purana villages and owned by the wealthy households.
- **Jayabhoomi and Swarnabhoomi Deeds:** These land grant deeds are issued under the Land Development Ordinance for agricultural and residential purposes with certain conditions. A *Jayabhoomi* or *Swarnabhoomi* land grant can be transferred to a specified person described in the Schedule of the Land Development Ordinance. A *Jayabhoomi* or *Swarnabhoomi* land holder is the owner of the allotment.
- **Land Development Ordinance (LDO) land Permits:** They are issued under Land Development Ordinance for a specified period of time. It can be transferred to a person described in the Schedule of the Land Development Ordinance.
- **Long-term Leases:** These leases are issued under the State Land Ordinance for commercial, residential or other purposes described under the Act. Leased period is 30 years with certain conditions. A long-term lease can be transferred to another person with the approval of the concerned authority.

- **Annual Permits:** The permit is a legal document that allows the permit holder to cultivate a piece of state land for a period of 12 months. A levy is charged from the permit holder. He cannot claim any right or interest over the land allotment.
- **Encroached Land:** Use of state land without permission for various purposes, mainly to cultivate highland crops. An encroachment could continue over several years. Periodically, the State 'regularizes' some of encroachments mainly as a part of the strategy to alleviate rural poverty.

57. Because of land fragmentation over generations, the cultivation of small holdings has become economically unviable. This uneconomical land fragmentation has become a serious issue in villages and settlements. The shortage and the lack of commercially viable land have had an adverse impact on households in terms of poverty. As discussed earlier, many households in the project areas have become increasingly more dependent on transfers and remittances from family members working in urban areas and abroad, and in the security forces.

58. Table 3 indicates that 43% of households still consider farming as their main source of income. Such income does not come only from their homesteads, highland and paddy land, but also seasonal wage work and children's or spouses' employment in non-agricultural sector. Most of the 21% of self-employment also fall into this category. Among them land 'ownership' is minimal, as they are the second and third generation settlers who do not own land, although their fathers possess some land mostly labelled as LDO allotments with restrictions on inheritance and division. Nearly one-fifth of the labour force is engaged in private sector employments. These are mainly temporary employment outside their communities. The educated youth find jobs as sale assistants, computer operators, factory workers, employees of garment industry and migrants to the Middle East as housemaids and low skilled technicians. Traders are mostly from the villages and the wealthy households earn an extra income from retail businesses, transport and marketing of local produce.

Table 3: Employment Status of Project-affected Households

Project & GND	State Sector	Private Sector	Trade	Self-Employment	Farming
UECP					
Elahera 3	01				
Damanayaya		02	01	04	04
Kottapitiya				02	
Madawala					03
Yakkalla	01	02	01		04
Sub total	02	04	02	06	11
NWPC					
Lenadora North		01	01		01
Ethabandiwewa				01	02
Welemityawa	01				03
Danduyaya				01	
Ranwedliyawa		01		01	
Pahalbambawa		03			01
Kospota		01			01
Konwewa	01			01	01
Sub total	02	06	01	04	09
Grand total	04	10	03	10	20
Percentage	09	21	06	21	43

Source: MCB Resettlement Census, July 2014; GND = Grama Niladari Division

59. Education and employment patterns in communities are closely linked. In project areas, educational levels of the project-affected households are low. Nearly 40% have studied a few years in school (1-5 standard) while 55% studied six years or more up to 11th grade (Table 4). Ten percent passed GCE (O/L) and three persons GCE (Advanced Level) There are no degree holders. Only one woman did not attend school at all. This education profile of the project areas indicates that only less than 15% of adults could find white collar employment at the lowest level in the government sector or private sector (table 04). There is no wide gap between the educational levels between men and women.

Table 4: Educational Levels of Project-affected Persons

Project & GND	Level of Education											
	1-5		6-11		O/L		A/L		Degree		No Schooling	
UECP	M	F	M	F	M	F	M	F	M	F	M	F
Elahera 3	1	0	1	1					0	0	0	0
Damanayaya	2	3	10	9	2	2	1	2	0	0	0	1
Kottapitiya	1	3	2	3	0	0	0	0	0	0	0	0
Madawala	3	2	2	4	0	0	0	0	0	0	0	0
Yakkalla	8	6	7	5	1	3	0	0	0	0	0	0
Sub total	15	14	22	22	03	05	01	02	00	00	00	01
NWPC												
Lenadora North	2	0	0	0	0	0						
Ethabandiwewa	3	0	1	0	0	0						
Welemitiyawa	1	0	3	0	0	0						
Danduyaya	0	0	0	0	1	0						
Ranwedliyawa	0	0	2	0	0	0						
Pahalabambawa	2	0	2	0	0	0						
Kospota	1	0	1	0	1	0						
Konwewa	1	0	2	0	0	0						
Sub total	10	00	11	00	02	00						
Grand total	25	14	33	22	05	05	01	02	00	00	00	01

Source: MCB Resettlement Census, July 2014

A. Household Income

60. About 13% of the displaced households in NWPCP and UECP areas earned less than SLR 5000 a month (Table 5). They are the poor and are often exposed to food insecurity and the lack of basic amenities. Those households earn a monthly income between SLR 5,000 and 10,000 each (12%) and could be considered as 'tomorrow's poor'. They live a precarious life with the possibility of falling into the poor category at any time. Those households located closer to large reservoirs such as the Huruluwewa Reservoir have better access to irrigation water to cultivate paddy and highland with secured irrigation water than those LDO settlers whose lands are prone to drought in both Maha and Yala cultivation seasons. The former constitute about half of the sample households each of which earns between SLR 10,000 to SLR 42,000 a month. Among those in the highest income groups (more than SLR 42,000 a month) are the households (8%) with working members in the formal sector employment with fixed salaries and those who are engaged in business. They have several income sources and land cultivation is one of them. In the project areas, they display non-poor characteristics both in their monthly income and assets at home. A household with a monthly income over SLR 42,000 could be considered as a middle class household which lives a comfortable life with electricity, easy access to water including pipe-borne water and spacious houses.

Table 5: Monthly Income of Project-affected Households (SLR)

Project & GND	Below 5000	5000-10,000	10,000-42,000	Over 42,000
UECP				
Elahera 3			01	
Damanayaya	02	04	04	01
Kottapitiya			02	
Madawala			02	01
Yakkalla	01	01	05	02
Sub total	02	05	14	04
NWPC				
Lenadora North	01		01	
Ethabandiwewa	01	01	02	
Welemitiyawa		04		
Danduyaya			01	
Ranwedliyawa			02	
Pahalbambawa		01	03	
Kospota	01		01	
Konwewa		01	02	
Sub total	03	07	12	00
Grand total	06	12	26	04

Source: MCB Resettlement Census, July 2014

61. The above income distribution data indicate the income dimension of poverty in the settlements. As a welfare measure directly focused on the poor and vulnerable households, the State runs an island-wide *Samurdhi* Program during the past several decades. However, data relating to *Samurdhi* benefit distribution is to be interpreted with care because the *Samurdhi* beneficiaries are not selected based on their monthly income. The allocation of *Samurdhi* benefits is often arbitrary and politicised. Although the issue of beneficiary selection has been at the core of the *Samurdhi* Programs' reform in the recent past, there is no clear directions on how this will be managed by the Government. In the NWPC and UECP areas, 25% receive *Samurdhi* allowances (Table 6). The amount received by poor and vulnerable households is inadequate to ensure their food security and basic expenses. Only 25% of *Samurdhi* recipients are happy with their allowances.

Table 6: Project-affected Households Who Receive *Samurdhi* Allowances

Project & GND	Number of Households	Monthly Allowance and Number of <i>Samurdhi</i> Recipients (SLR)				Satisfaction	
		615	500	415	330	Yes	Now
UECP							
Elahera 3							
Damanayaya	03		02	01		01	
Kottapitiya							
Madawala	02	01			01		
Yakkalla	02		02				
Sub total	07	01	04	01	01	02	05
NWPC							
Lenadora North							
Ethabandiwewa	01		01				01
Welemityawa	02	01			01	01	01
Danduyaya							
Ranwedliyawa							
Pahalbambawa	01			01			01
Kospota							
Konwewa	01		01				01
Sub total	05	01	02	01	01	01	04
Grand total	12	02	06	02	02	03	09
Percentage	100	17	49	17	17	25	75

Source: MCB Resettlement Census, July 2014

B. Household Expenditure

62. Households spend as high as three-fourths of their income on food in the UECP and two-thirds in NWPCP. Such high food expenditure leaves households with very little money to spend on health, education, clothes and transport. They depend on public health and educational facilities which are largely provided by the state free of cost (Table 7).

Table 7: Average Annual Household Expenditure (SLR) (N= 48 households)

Project	Food	Health	Education	Transport	Clothes	Other	Total
UECP	10,600	700	680	780	1050	575	14385
%	74	05	05	05	07	04	100
NWPC	8580	1025	865	870	750	1255	13345
%	64	08	06	07	06	09	100

Source: MCB Resettlement Census, July 2014

63. Because of the living on the border of poverty many of them are in debt. They obtain cultivation loans from the Bank of Ceylon, *Samurdhi* Bank, and the People's Bank. A few obtain loans to build a house and for business development. In the NWPCP area, 21% households and 50% in the UECP area obtained credit from institutional sources. Fifteen% of such loans are for cultivation purposes, 12% for house construction, and 20% for business development. More than half of loans were spend on household expenses such as weddings, children's education and pilgrimages. The highest amount borrowed from the People's Bank was SLR 550,000 to build a house. Another household borrowed SLR 550,000 from the Bank of Ceylon to improve agricultural land. The average amount of household debt in the NWPCP and UECP areas was SLR 30,000. The informal money lending is rampant in the project areas, and many poor villagers depend on money lenders to borrow money for their daily expenses and pay

exorbitant interest rates when crops are harvested or household members send money home from their employment.

C. Housing

64. Housing is a key indicator of a household's income and wealth. Regardless of the income bracket of a household, all households want to build a better house with basic amenities such as water, electricity, and a sealed toilet. Most of the remittances from outside are dedicated to build better housing facilities and to buy TVs, cookers, DVD players, motor bicycles and three-wheelers.

65. Fifty percent of households live in small but permanent houses (Table 8). Only 13% households live in spacious houses with the area more than 1500 square-feet. Two-thirds of households are connected to power supplies and one-third of households receive pipe-borne water. Only three households live in temporary huts.

Table 8: Types of Buildings and Facilities

Project & GND	Permanent			Semi Permanent			Temporary			Electricity		Pipe-borne Water	
	1	2	3	1	2	3	1	2	3	Yes	No	Yes	No
UECP													
Elahera 3		1								1		0	1
Damanayaya	4	2	3	2						8	3	7	4
Kottapitiya							1	1		0	2	0	2
Madawala	1	1					1			1	2	2	1
Yakkalla	5	2	2							5	4	2	7
Sub total	10	06	05	02			02	01		15	11	11	15
NWPCP													
Lenadora North	2										2		2
Ethabandiwewa	4									2	2	2	2
Welemitiyawa	1	2	1							4		1	3
Danduyaya		1								1			1
Ranwedliyawa	1	1								2			2
Pahala Bambawa	1			02						3			2
Kospota	1			02						2		1	2
Konwewa	3									3		1	2
Sub total	13	04	01	04						16	04	4	16
Grand total	23	09	06	06			02	01		32	15	16	31

1 = <750 sqft; 2 = 751-1500 sqft; 3 = >1500 sqft

VII. ANTICIPATED PROJECT BENEFITS AND ADVERSE IMPACTS

A. Employment Opportunities

66. The project activities will generate employment opportunities which will directly benefit local people, especially project-affected persons. They expect that the executing agency and project contractors would give priority to local people in selecting skilled and semi-skilled labourers for project construction works. Political interference and recruitment of outsiders would create social and income problems for them.

B. Increase in Agricultural Production

67. Primary benefits of the projects will be the increased agricultural production through improved irrigation. More specifically, improved irrigation is expected to result in:

- (i) An increase in yields of existing crops (paddy and other field crops)
- (ii) An increase in the cultivated area (during the dry season, a substantial part of agricultural land is left fallow in areas that are not served by irrigation systems)
- (iii) An increase in the production of high-value crops (such as fruit or vegetables)

68. The availability of irrigation water has a major impact on the existing cultivated area. About 60% of rain-fed land (where paddy is cultivated during the Maha season) is left fallow in the Yala season. In case of irrigated land under irrigation schemes, only 16% of cultivated land fall into this category. Similar observations are made about other field crops (OFCs), although differences in net yields and cultivated areas are less extreme than for paddy, given that most OFCs are less dependent on water than paddy. The relationship between the availability of irrigation water and the increase in the production of high value-added crops are less straightforward, because such crops require inputs that are not easy to model, notably access to markets and marketing support.

C. Health and Water

69. The accessibility to water for domestic use is affected by the distance to travel for water collection, the time waiting at the source, and the quality of water at source. Fetching water from long distances consume time and energy, especially of women and children, mostly disturbing them in their household activities, income generation opportunities, leisure activities, and in educational activities. This is especially noted in the communities where households live on LDO allotments.

70. The projects will provide better water supplies to water-deficit areas in the dry zone. This is particularly urgent given the chronic kidney disease has become a major health issue in NCP, EP and NWP. Recent research studies conducted by WHO and University of California proposed authorities to provide good quality drinking water to reduce chronic kidney disease. Provision of good quality drinking water will also reduce gastrointestinal diseases especially among children and old people.

D. Application of Labour Laws

71. The educated people (teachers, government officials and chief incumbents of Buddhist temples) in project areas expect that civil work contractors comply with labour laws and regulations of Sri Lanka. Parents would not send their minors as labourers to work sites. Women who expect to work at work sites as day labourers expect that men and women will be

paid equal wages for similar work, and the contractors provide measures to ensure health and safety of workers, including appropriate sanitation facilities for women.

72. People in several project areas indicated their past unpleasant experience of having worker camps nearby. They think that the presence of worker camps close to their houses would generate adverse impacts on their families, and health and safety of the community. They also pointed out that solid waste generation and water pollution at worker camps and worksites would harm them. The impacts depend on the location of sites and their management. They expect that the project authorities would take measures to overcome them.

73. People are concerned about tunnel excavations and their associated risks to the workers who may have limited experience with machines. Fire hazard, getting into contact with moving parts, inadequate ventilation, getting exposed to harmful gases are some of the likely safety risks that they are concerned about.

74. In case of drilling and blasting rocks, use of explosive materials and accidental blasting are some of the safety risks to which villagers and settlers are exposed. In open channel excavations and in the transport of excavated material, use of heavy machinery, dust and exhaust gases can affect the workers and the people who live in the vicinity. Villagers want a safety program at such locations before any physical work starts. They also want safety fences along the canals to protect their children and animals.

E. Social impacts of Construction Activities

75. Local communities will experience difficulties when using existing major roads as well as by-roads that connect major roads with construction sites. Dust pollution and noise pollution are two major adverse impacts. Generation of high levels of dust and particulate matter, and release of exhaust fumes (by operation of vehicles and machinery) in the air especially during the construction work in the dry seasons would harm people in project areas.

76. Bad influence of migrant workers on local youths is a grave concern of parents. They believe that the arrival of work gangs with contractors would expose their youth to various nefarious habits such as drug additions and alcoholism.

77. Some households felt that alternative schooling facilities are to be provided in case children cannot go to school because of the construction activities. They fear that noise and dust pollution at construction sites would disrupt school work and expose children to various illnesses and hazards. Several households are worried about the potential separation of households by the canal. They want bridges across the canals to maintain their social relationships without interruption. They are grateful that no one will be physically removed from their communities although many of them will lose their houses and homesteads to the projects.

F. Impacts on Community Health and Safety

78. Environmental pollution especially of water sources because of construction activities will affect community health especially of children, elderly and sick persons. Increase of vector-borne diseases such as dengue due to construction of trenches, pits, any other structures that can hold stagnant water.

79. No record of HIV/AIDs is found in the project areas. The spread of sexually transmitted diseases as a result of the influx of migrant construction workers is low as locally hired labourers will work at most of the work sites. But people in project areas are concerned about the possibility of arrival of prostitutes from towns and cities, and the risks to their youth are exposed.

80. Timely dissemination of information and awareness creation among construction workers and communities on the risks of sexually transmitted diseases and HIV/AIDS are important. Measures of anti-trafficking of women and children should also be made part of the health and safety program implemented at construction camp sites.

81. Two GNs suggested that a baseline health status survey of the affected communities would be very useful in monitoring changes in health status of local people during the operation and maintenance phases of the projects. Such a database, they think, would provide an objective threshold to monitor health impacts and to identify those who deserve compensation from contractors.