Research report on **Nutrition Home Garden (NHG)** Impact Study in Wilgamuwa DS Division

Assisting Communities in Creating Environmental and Nutritional Development (ACCEND) Project

In collaboration with

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Abbreviations

ACCEND	Assisting Communities in Creating Environmental and Nutritional Development
ADRA	Adventist Development and Relief Agency (an international NGO)
CKD/CKDu	Chronic Kidney Disease/Chronic Kidney Disease of Unknown Origin
COVID-19	Coronavirus Disease 2019
DDS	Dietary Diversity Score
DRR	Disaster Risk Reduction
DSD	Divisional Secretary Division
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
GND	Grama Niladhari Division
HDDS	Household Dietary Diversity Score
HH	Household
HNC	Health and Nutrition Committee
LKR	Sri Lankan Rupee
MOH	Medical Officer of Health
NHG	Nutrition Home Garden
OPL	Official Poverty Line
PVC	Polyvinyl Chloride
SEM	Structural Equation Model
SD	Standard Deviation
SPSS	Statistical Package for Social Sciences
WHO	World Health Organization

The ACCEND Project

ACCEND (Assisting Communities in Creating Environmental and Nutritional Development) is a 57-month project jointly run by ADRA UK, ADRA Sri Lanka, and Oxfam Italy since 2017. Funded by the European Union and implemented in the three districts of Matale, Nuwara Eliya, and Monaragala, the project is to benefit about 300,000 persons from 32 estates and 23 rural communities.

The project's goal is to contribute towards the improvement of the health, hygiene, nutrition, and sanitation of communities in Uva and Central provinces. Project activities are carried out in cooperation with the Divisional Secretariat and the Medical Officer of Health (MOH) offices. The project's operational areas in the Matale and Monaragala districts consist of 10 and 13 Grama Niladhari Divisions (GNDs). 32 estate divisions that belong to 10 tea estates, managed by Horana, Maskeliya and Bogowantalawa Plantation Companies, are the operational areas of the Nuwara Eliya district.

Main Outcome

To strengthen communities and public institutions towards an integrated, mutually accountable service delivery system in water, sanitation, health, and nutrition.

Gender and Disaster Risk Reduction (DRR) are cross-cutting themes that run through all project activities.

Key Role

To facilitate and assist communities and strengthen government services within the project locations.

This is enabled through the formation and mobilisation of community entities, raising awareness, conducting trainings, constructing and repairing physical structures, piloting innovative ventures, launching studies based on project priorities and being involved in planning and policy development with the government.

Introduction

This report provides information on the impact of the Nutrition Home Garden (NHG) activity conducted in Wilgamuwa Divisional Secretariat Division (DSD), Matale District, to provide healthy organic food to the beneficiary households (HHs) and their children under the ACCEND project. Both economic value and nutritional contribution of NHGs to the HHs are quantified in the study. As the true economic value of home gardens has not been sufficiently quantified yet in the Sri Lankan context, this study aims to shed more light on the subject.

Definition of NHGs

The ACCEND project defines the NHG as "a well-developed farming system that combines physical, social and economic functions of the space surrounding the family house, maximising on the available natural resources while incorporating organic farming techniques to produce a variety of safe (free from agrochemicals) and nutritious food to meet the non-staple dietary needs of a family all year through." The focus of the Nutrition Home Garden is "FOOD FIRST". It includes sufficient plant varieties of vegetables, fruits, roots, tubers, legumes, medicinal herbs, spices, and, if possible, farm animals, bees, and fish to contribute towards healthy eating choices. A well-planned NHG will help improve the family's nutritional status and also serves as a model for the community.

Gardening is not new to these estate and rural communities. The purpose of the activity is to add to the knowledge they possess and help design a systemic garden where the focus is on nutrition.

Background

The NHG activity results in 1500 NHGs in the 3 districts Matale (200), Nuwara Eliya (800) and Monaragala (500). In 2019, a survey was conducted by the project in the 10 GNDs of Wilgamuwa, where the ACCEND project is implemented. Out of 346 children (under age 5), it was found that 54% were at risk for or suffering from moderate or severe acute malnutrition (between -1SD to -3SD). The NHG activity was initiated in 2018 to contribute towards the improvement of malnutrition in children under age 5 in this poverty-stricken area where communities were vulnerable. The NHG activity promoted organic food production within a 20'X20' garden and provided technical guidance in organic cultivation, essential gardening tools, seeds, and plants. Two hundred (200) vulnerable households (HHs) were systematically selected as the direct beneficiaries in Wilgamuwa.

Wilgamuwa, Divisional Secretariat Division

Located within the Central province of Sri Lanka, the Wilgamuwa Divisional Secretariat (DS) Division is situated in the Matale District and belongs to the rural sector where agriculture is a way of life:

- Area: 256 square kilometres
- Grama Niladhari divisions: 39
- Population: 31,617 (in 2019)

Figure 1: *Map of Wilgamuwa DSD, Matale District, Sri Lanka*

The Study

Objective

The study's primary objective was to ascertain the impact of NHGs in Wilgamuwa DSD on beneficiaries with particular reference to crisis situational nutrition needs.

Specific objectives:

1. To identify if the project-assisted NHGs in Wilgamuwa DSD are sustainable even after the COVID-19 crisis.
2. To study and determine if the NHGs increased the resilience of communities to face a crisis such as COVID-19.
3. To identify good practices followed by the project staff team to ensure the success of the NHG.
4. To identify the economic impact of the NHG at the family level.
5. To identify the social impact (involvement of family and community members).
6. To identify the agrobiodiversity of NHGs and the NHGs' impact on family nutrition.
7. To identify the information needed for the successful promotion or introduction of the model elsewhere.

Study Methods

The study was conducted from November 2020 to January 2021. Primary data were collected by adopting quantitative and qualitative methods as studies conducted in similar contexts had used such applications to improve accuracy. Micro-level data, i.e., consumption and production, were collected using the quantitative method (questionnaire), while the qualitative method was used to collect qualitative information, i.e., macro-level information, general information (FGDs).

The total beneficiary HHs (200) registered under the activity, in Wilgamuwa DSD, were the unit of analysis in the study. Respondents were HH members who were most involved in the NHG activity (in daily maintenance and participation in ACCEND NHG trainings) as the survey demanded data on a micro-level.

Statistical Package for Social Sciences (SPSS version 16) and STATA 14 were used for data analysis. The data set was checked and cleaned by visual examination and standard methods before analysis. After data collection, a debriefing meeting with enumerators was conducted to check whether all questions and responses were correctly answered and recorded.

Challenges and Limitations

- Requirement to maintain social distance and movement-restriction due to COVID-19.
- Conducting the FGDs without in person/physical meetings.

The Results

General Demographics

Sample:
197
(out of 200 NHG HHs)

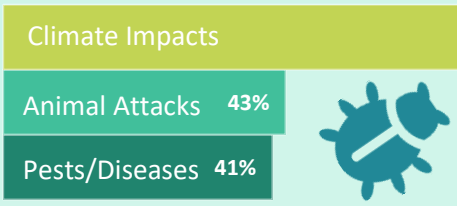
Respondent Profile:
100% Female
Average age: **38**
Education: **81%**
(Secondary)

Household:
81% Male Headed
- Sinhala Buddhist
- Average HH size: **4**
- **61%** had sufficient income to cover HH expenses but no excess

Farming Experience:
- Average: 16 years
- Farm size per HH:
  - Paddy: 1.33 acres
  - Highland: 0.9 acres
  - NHG: 0.7 acres

NHG Maintenance and Risk Mitigation

Figure 2: **Major Risk Factors for NHGs**

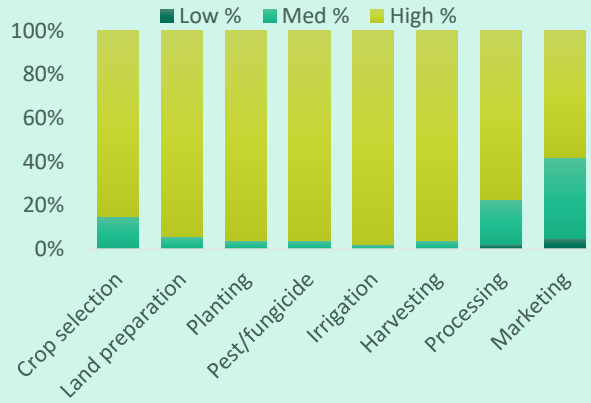


The three most helpful intervention areas provided by the project (and reported with high satisfaction by beneficiaries) were:

1. the support to control pests and diseases
2. provision of information to safeguard the NHGs from animal damages
3. provision of inputs (seeds, plants, garden tools).

However, more emphasis should be given to the topic of climate risk reduction strategies since the satisfaction level was reported as low among the respondents.

Figure 3: **Perceived level of knowledge in agronomic practices**



Respondents reported a high level of knowledge on agronomic (crop management) practices provided through the NHG activity training programs. Use of traditional knowledge and organic inputs was the most common strategy applied to manage the risks.

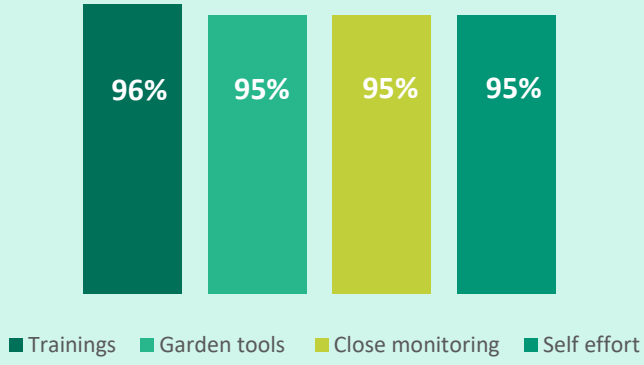
Project Support and Beneficiary perception

98%

of the respondents stated that the support received from the project impacted their successful implementation of the NHGs.

Nearly all respondents reported that they desire to continue their NHGs with the knowledge gained through the project even after the project has ended. Self- effort was considered to be an important factor for their success.

Figure 4: **Top perceived reason for the success of NHGs**



However, the study revealed that innovative and self-learnt techniques based on traditional knowledge were seldom practiced.

This observation can be justified with the average middle-age of the respondents. This generation (born after 1980 approximately) had not received much traditional knowledge from older generations and used inorganic agricultural inputs similar to their immediate elders. NHGs have played a significant role by reintroducing traditional eco-friendly techniques, adding value to local knowledge.

The study concludes that the activity was successfully completed based on the following observations:

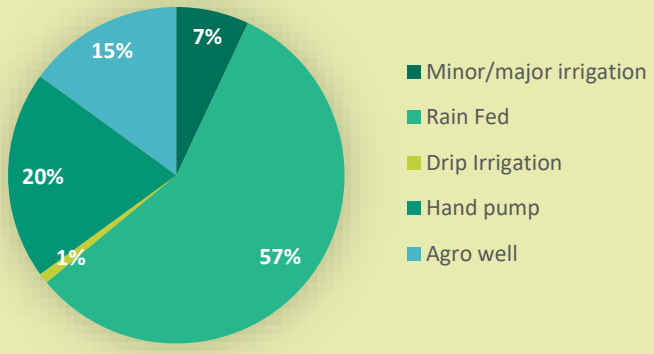
of the respondents reported having established NHGs primarily for family nutrition.

Income generation was only considered by 41% at the initiation of the NHG activity. HHs reported that receiving a significant income through their NHG savings was an unexpected benefit.

Water Supply and Irrigation

- Climate change and weather are critical factors that determine the success of NHGs.
- Water shortage was identified as a key factor for poor maintenance of NHGs.
- Cost-effective irrigation techniques are needed to be introduced to the HHs since they can be purchased using NHG savings.

Figure 5: **Methods of Irrigation practiced by respondents**



Organic Home Gardening

The use of inorganic fertilisers had significantly reduced due to the introduction of organic composting and fertilising methods through NHG trainings.

Respondents used fermented rice liquid, tonics made of fish, fruit and cow dung, and other organic mixtures for composting, and control of pest and disease.

Self-produced organic inputs for the NHG per season (3 months):

5 kg	60 kg	9.23 L	8.45 L
Seeds	Organic Fertilizer	Growth Promoter	Organic Pesticides

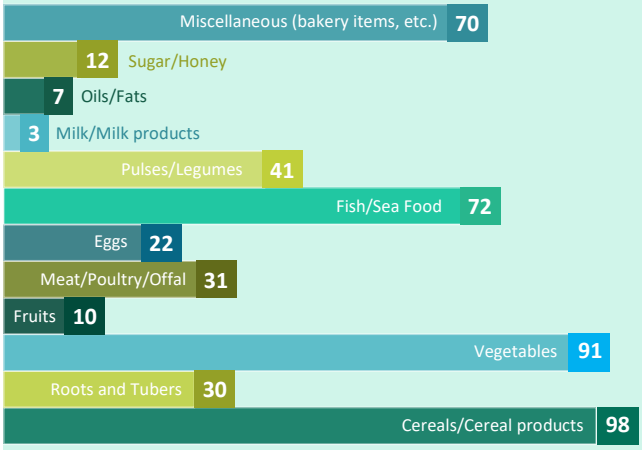
Initially, the project provided less than 100 grams of seeds of 20 varieties of crops with instructions on seed protection and production. This practice has enabled them to have a sustainable supply of produce for every season.

Family Nutrition

Dietary diversity has been identified as a key element of high-quality diets.

A diverse diet reflects the nutrient adequacy of the diet (Fathima & Mitchell, 2020). FAO introduced the 24- hour dietary recall of food use as a measure of food security of the HHs. A dietary diversity score is the sum of the different food groups consumed by HHs. The set of 12 food groups was used to calculate the household dietary diversity score (HDDS) by considering the local conditions.

Figure 6: **24 Hour food intake of 12 food groups consumed at least once (%)**



The study showed that majority (65%) of HHs consumed 4-9 food groups within a 24H period, resulting in an Medium DDS score (Henrietta & Odenigbo, 2015).

- High percentile of cereals is represented by the predominant rice-based diet of a typical Sri Lankan household.
- Low fruit intake is also in line with a typical Sri Lankan family (Perera and Madhujith, 2012) and is below WHO recommended amounts. It is recommended to increase fruit intake in households as an alternative to store-bought snacks and sweets.
- The second highest consumed food group are vegetables and could be due to the increase in its availability and access through NHGs
- Meat, egg and bee honey consumption can be improved by including layers and a bee keeping unit.

Food Security

of the HHs had NHG produce saved for future use. The stored food is expected to last for about 6 months and HHs also reported to have had sufficient supply in the last 12 months (during the COVID-19 pandemic period).

Results show that NHGs clearly contribute to food security and thus emphasize the importance of establishing them, especially during economically vulnerable periods such as the COVID-19 pandemic.

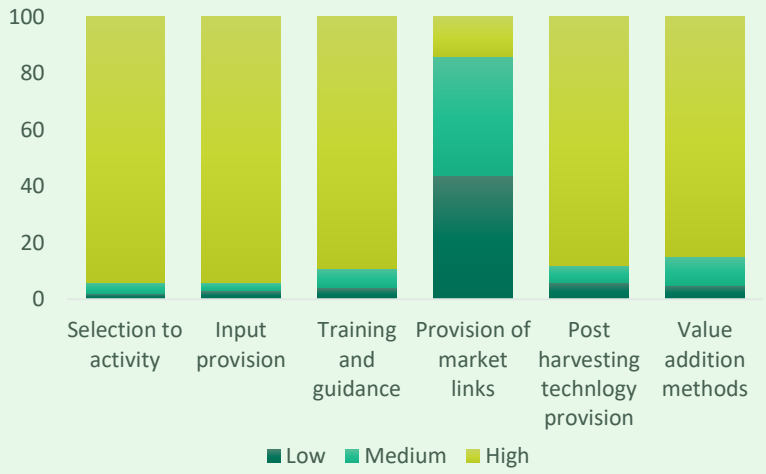
COVID-19 and Resilience

One of the study's specific objectives was to find the economic value of an NHG through a cost-benefit analysis while providing information on its contribution to withstand the impact of the COVID-19 pandemic on household food consumption. The study focused on:

- the current level of NHG use
- contribution to the economy of present beneficiaries
- adoption of good practices
- support from the project team
- community participation in activities, and
- comparison of successful implementation of NHGs over project period and its contribution to mitigating of food security issues due to COVID-19 pandemic.

The study revealed that NHGs had helped HHs overcome the difficulties of food supply during the COVID-19 pandemic through self-produced food.

Figure 7: **Reasons for withstanding impacts of COVID-19 and level of relevancy (%)**



ACCEND project's NHG activity was assessed and found to be relevant in withstanding the COVID-19 food supply limitations due to:

- the selection to the activity (**94%** respondents),
- provision of inputs such as seeds and garden tools (**93%** respondents),
- acquired knowledge through training (**89%** respondents) and
- acquired post-harvesting technology (**88%** respondents) which have been highlighted as the most effective

Practices such as crop rotation and cultivation methods based on the traditional knowledge taught by the ACCEND project were applied more frequently during the COVID-19 Pandemic period by the beneficiaries and helped them better adapt to the crisis situation.

- The contribution of each reason (above mentioned) to different aspects of food production was examined to find out how those reasons contributed to withstand the impact of COVID-19 on the food supply. Results:
    - Being a beneficiary of the activity has helped 185 respondents to secure the nutritional needs of the HHs and enabled **45%** of them to start their own food production.
    - Project's inputs have impacted 175 respondents to secure the nutritional needs and has impacted **33%** of them to help HH income from food production.
    - The provision of knowledge and training has helped 178 respondents and has contributed to growing essential food for **46%**.
- However, the applicability of available knowledge provision, training, and guidance have been recognised as helpful by only **17%** of respondents for identifying nutritional values of food. Therefore, the efforts on this aspect need to be further improved.
- Value addition and processing methods have increased the number of items available in the food basket due to the extended life of most of perishable produce. i.e., preservation techniques such as pickling, etc.
- As a result, respondents have utilised, on average, fruits (3 days), vegetables (7 days), cereals (5 days), spices (7 days) within a week.
- The study revealed an abundance of turmeric in beneficiary households cultivated in their NHGs when this commodity was scarce and expensive in the market during the COVID-19 pandemic.
- Protein sources from meat, fish, eggs and dairy were scarce during the pandemic. Introduction of suitable livestock into NHGs to provide a balanced meal is recommended.

Record Keeping

The daily self-reporting system introduced by the ACCEND Project through the NHG Record books, has given a reasonably reliable record of the harvest and its market value. The objective of the self-reporting system was to make them understand the value of savings made through the NHGs and the income they earned by selling the excess harvest. These reports work similarly to farm accounts which help them examine their progress and cash inflows through savings from food expenditure reductions and crop sales and were also used to analyse the economic value of the NHG.

Figure 8: Lalani Kanchana, 25 (Kumbukandana GND), holding the ACCEND NHG Record book.

Economic Value of the NHG

Home gardening has been promoted as a low-attention, non-economic activity that supports food security only at a subsistence level. However, through the economic analysis, this study reveals that NHGs can contribute to poverty reduction through income generation while improving family nutrition.

The Official Poverty Line (OPL) of Sri Lanka for March 2021 was 5181 LKR and for Matale District was 5271 LKR. The average monthly earning per HH through an NHG is 3 times larger than the national OPL and the OPL calculated for the Matale district (DCS,2021)

Table 1: **Summary of the economic value of an NHG:**

No	Description	Value
1	Average Household Size	4.03
2	Average farming experience of respondents	16 years
3	Average cost of production of an NHG (400 Square feet area) per month	1000 LKR
4	Average Total Revenue of an NHG per month	17,000 LKR
5	**Average monthly profit of an NHG per month**	**16,000 LKR**

The average monthly income of a rural household was reported as 58,137 LKR (HEIS-DCS, 2016). Therefore, one-fourth of this amount can be taken from an NHG through the sales of excess harvest and by saving through the reduction amounts of food expenses in rural communities.

Though home gardening is generally considered a subsistence level activity, the results show that the economic valuation of an NHG ***(16,000 LKR)*** *can be used as a significant contribution to household income.*

This economic analysis visualises the possible use of an NHG on poverty reduction through income generation and family nutrition.

Success story: 6 beneficiaries have spent their income from NHGs, on average 4676 LKR, to purchase sprinklers in the considered cropping season. It was reported that 28 beneficiaries have used, on average, 2223 LKR per season to buy PVC pipes, the parts for the sprinklers, and its maintenance from the seasonal income of NHGs.

Figure 9: A.G Chandrika Kumari (Wanarawa GND), bought a spray can and hose pipe from the NHG Savings

Agrobiodiversity

Though the project directly supplied the NHG beneficiaries with seeds of 20 varieties of crops (herbs, vegetables, and fruit) at the initiation of the activity, some beneficiaries have around **40–50** varieties of food crops represented in their NHGs. These also include traditional varieties such as yellow gram, bottle gourd, ash pumpkin, traditional corn, and cooking melons.

In addition to the food crops, medicinal herbs and plants were also included in the activity's NHG model. The details on the cultivation of medicinal plants are shown in the graph below:

Figure 10: **Medicinal plants cultivated in NHGs (% of HHs)**

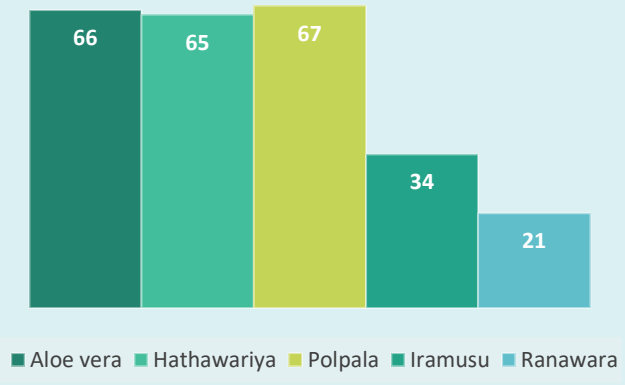
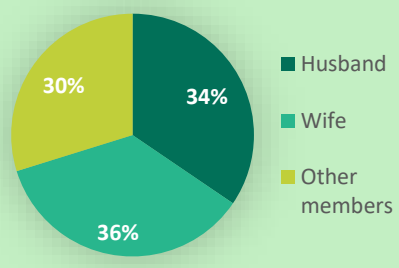


Figure 11: Nilmini Perera (Kumbukandana GND), displaying a local variety of Ash pumpkin which she has also shared among community members.

Gender Roles and the Family Unit

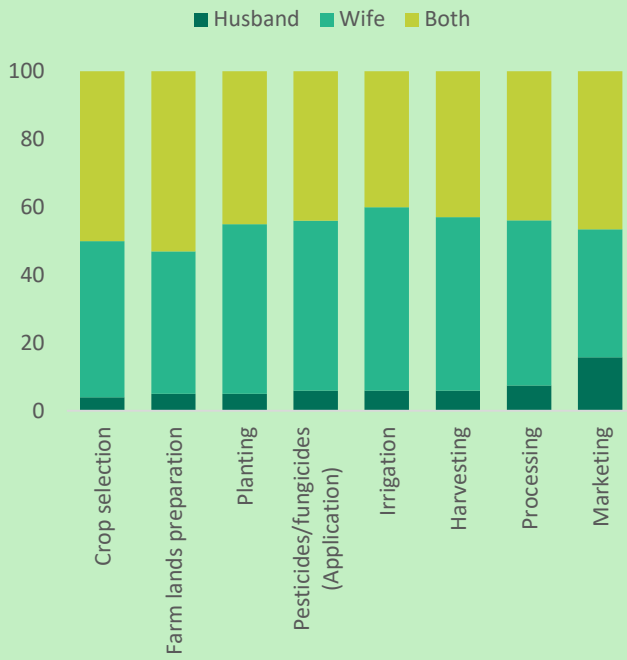
The study found that both husband and wife jointly took decisions concerning the NHGs and family nutrition though 81% of the HH are led by men. Relevant information for NHG maintenance was jointly collected by both husband and wife in **40%** of the HHs. **Labour contribution of both husband and wife were nearly equal**. The distribution of labour is depicted in Figure 13.



This collaborative effort and support of all family members are inspired by the usefulness of the NHGs, especially after recognizing its significant contribution to household income and health.

Figure 13: **Total family Contribution for NHG maintenance (hours per week)**

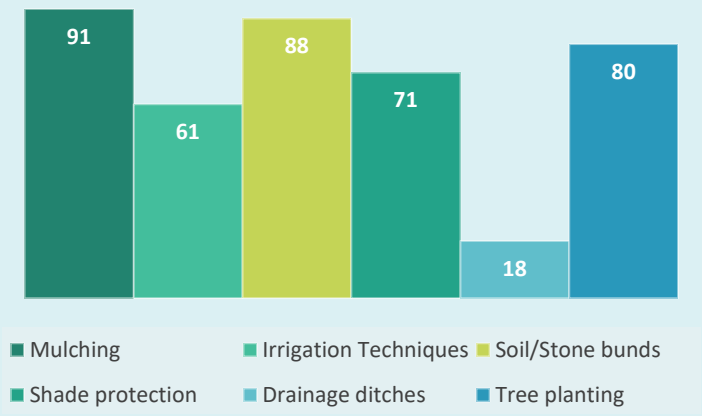
Figure 12: **Information collection on agronomic practices based on gender (%)**



Environment Conservation

The existence of a home garden is significantly dependent on nature, and therefore, conservation of the environment is a key factor for the sustainability of NHGs. For this reason, the project emphasised conservation strategies for soil, water, and land through practices that incorporate organic techniques:

Figure 14: **Soil conservation methods adopted by the HHs (%)**



- **80%** of the beneficiaries practice tree planting, which contributes to **canopy layering** within the NHG, which systematically reduces the speed of rainwater and soil erosion.
- Cultivation of **local crop varieties** was practiced by **78%** of the beneficiaries. Hybrid/single-use seeds have not been provided due to their negative impact on soil nutrition and also to promote seed production.
- Among the activities, **mulching** has been done by **91%** of the beneficiaries to conserve soil moisture.
- **Irrigation techniques** such as watering, drip irrigation, sprinklers have been used by **60%** of beneficiaries to increase water use efficiency.

NHG Impact on CKD/CKDu

The study shows that due to the project's intervention, the beneficiaries gained knowledge in the following areas:

1. selection of healthy foods by **89%** of the beneficiaries,
2. cultivation of nutrition-rich produce in NHGs by **95%** of the respondents and
3. preparation of food in a healthy manner by **97%** of the respondents.

Figure 15: Father of Lalani Kanchana, Kumbukandana, who like many CKD patients in his community is grateful that the NHG gives him organic and healthier options for his health.

of the respondents claimed that the NHG activity provided sufficient information in the selection, preparation, and cultivation of healthy, safe (free of chemicals) produce with over **95%** level of satisfaction.

Conclusion and Recommendations

Conclusions

1. The NHGs in Wilgamuwa have supported the beneficiaries during the COVID-19 crisis by supplementing the nutrition needs of the HHs. The market dependency for fruits and vegetables was low among the beneficiaries. As a result, most HHs have not experienced food shortages and have consumed homegrown vegetables. This supports the fulfilment of the main objective even during the crisis and highlights the overall success of the NHGs.
2. NHGs in Wilgamuwa Division are still (even after 11 months since the crisis) sustainable. Respondents recognised the importance of NHGs, due to their immense benefit during the COVID-19 crisis. As a result, 98% of respondents expect to expand the original NHGs to larger areas.
3. The beneficiaries have implemented good practices that were promoted since the initiation of the NHGs which were especially strengthened during the COVID-19 pandemic to maintain sufficient crop production as a coping mechanism. These practices include crop rotation, cultivation methods based on the traditional knowledge, and sharing seeds, knowledge and organic inputs among the fellow beneficiaries.
4. The NHGs have provided an economic benefit to the beneficiaries through savings and sales of excess harvest. Using cost-benefit analysis, the quantification of economic value revealed that the true value of income of an NHG per month (16,000 LKR) is approximately three times larger than the OPL of the Matale district. This quantification affirms the importance of NHGs in contributing to improved family nutrition and poverty reduction rather than only being a subsistence activity.
5. Food storage and stocks have shown a significant number of storable foods that could last for 6 months on average. 90% of the HHs had enough food for the last 12 months. Food utilisation within a week as well as 24 hours showed that the majority consumed all the essential food groups sufficiently except non-growing items like animal products during the pandemic. Thus, NHGs are necessary to meet most of their nutritional needs.
6. The NHGs are very rich in agrobiodiversity. Local varieties of the crops are grown with homemade inputs such as organic composts. Seeds of these varieties are produced by the beneficiaries confirming in-situ conservation as a good practice with the support of the project team.
7. The attitude changes towards organic food growing or low input use are important to the establishment of NHGs. Further, perceived barriers and difficulties to find nutritious food have also impacted positively on engaging in NHGs.

Recommendations

To ensure that NHGs are effectively used in the current location or for possible expansions elsewhere, the following would need to be included based on study findings.

1. Proper awareness about the activity and all the significant benefits of agronomic practices to be created at the initiation of the activity as it inspires people.
2. NHGs contribute to improved nutrition and household income. Therefore, promoting NHGs to rural areas is recommended due to its impact on poverty reduction (as a by-product) and the prevention and improvement of nutrition-related issues.
3. Promotion of investment in NHG infrastructure by utilising NHG savings will encourage increased income, reduction of poverty and dependency in HHs.
4. Knowledge provision on marketing and price fluctuation has not been considered much since promoting improved nutrition was targeted as the core value. However, providing such information while keeping the core value is recommended to enhance the economic benefits through possible sales of excess harvest.
5. The introduction of livestock is important since it can increase both income and nutrition.
6. Provision of knowledge on bee honey production is important with a suitable initiative such as Bio-Fin concept (UNDP, 2018) due to numerous benefits on the ecosystem, food production, family income, and nutrition.
7. NHG units can be used to improve the resilience of people in critical conditions. Therefore, it is recommended to establish such NHGs elsewhere as well.
8. The use of more traditional home-based organic inputs is recommended since it reduces the cost of cultivation, lowers health risks and is easy to be adopted by farmers.
9. Promotion of NHGs as economic production units (commercialisation) is not recommended to keep the competition minimum and safeguard the originally intended nutrition-centered values.
10. The success and sustainability of NHGs after the ACCEND project can be achieved by linking this with government institutes or activities, i.e., under Saubagya programme, by making the government a stakeholder (which is not observed at present).

Appendix: Beneficiary Spotlight

Figure 16: **An encouraging example of behavior change**

Iresha Hemakumari from Palupitiya GND has adopted wearing protective gear such as gloves and boots whenever she works in the paddy field or in her NHG and leads as an example to her community which has one of the highest-burden of CKD/CKDu in Sri Lanka.

Figure 17: **Community Influencer**

Nilmini Perera from Kumbukandana GND was one of the first beneficiaries to build a small hut to house her homemade organic tonics, NHG tools and materials in her NHG. Nearly 8 – 10 other NHG beneficiaries within the neighborhood adopted this creative idea as well.

Figures 18 (a,b,c): **Family nutrition and participation**

Indrani Gunawardena from Palupitiya GND, started her NHG after she was inspired by her daughter, Iresha Kumari (an NHG beneficiary) whose 3-year old daughter was underweight (<-2SD) at activity initiation. Due to the NHG, she is now within the normal weight range. Indrani was also inspired to diligently save money through the NHG savings till provided by the ACCEND project.

Beneficiary Spotlight

Figures 19 (a,b,c): **Seed Preservation**

Kumari Manike from Lediyangala GND diligently preserves seeds from her harvest in neatly labelled packets. She is to display them at an exhibition in her community to showcase ACCEND home gardens.

Figures 20 (a,b,c): **From chemical to organic farming**

Mallika Ranasinghe from Weheragala GND is a member of the HNC and is an example of the many beneficiaries who did not know how to use organic techniques before the NHG trainings. With the knowledge gained, and with the support of her family, she is able to harvest enough organic produce which has sustained them through COVID-19 as well. She also utilised their NHG savings to cover the educational expenses of her children.

Figure 21: **NHG Savings and economic benefit to household**

Mr Laleendra Yasamal, NHG Consultant, looks over a larger land area into which NHG beneficiary G.G Heenmanike from Gaburuoya GND expanded her 20'x20' NHG. During the COVID-19 lockdown, the abundance of produce from her NHG was shared and sold with her community, earning about 80,000 LKR. This income aided her immensely in the caring for her CKD/CKDu affected husband that had undergone surgery during this period as well.

Beneficiary Spotlight

Figures 22 (a,b): **Entrepreneurs**

Nimali Shanthi from Gaburuoya GND borrowed a portable electric sealer that enabled her to neatly packet over 5kgs of traditional seed varieties (saved in a period of 1 month) to be sold to organic markets. One kilo of Kekiri seeds was valued at 4000.00 LKR

Figures 23 (a,b): **NHG Savings and upgrading**

Irosha Sandamali from Wanarawa GND expanded her NHG all around her house. She purchased pipes and sprinklers and upgraded her irrigation methods through her NHG savings. She is also a beneficiary that makes homemade compost for her NHG and shares the excess with her neighboring gardeners.

Beneficiary Spotlight

Figures 24 (a,b): **Empowered woman, leader and community influencer**

a

b

Sanjeewani Weerakoon from Kumbukandana GND is an NHG beneficiary who truly grasped the concept of organic gardening promoted by ACCEND and holistically reaped the benefits. With a 3-year-old underweight child, parents and husband who are all CKD/CKDu patients, Sanjeewani took it upon herself to give this concept her best and produced an NHG with over 50 varieties of local crops.

She has helped her neighbours and community members with their NHGs by influencing them to adopt the methods she learned through the NHG trainings and sharing her very colourful and creative NHG record books (Figure 23b) to share knowledge. She testifies that being such an influencer has empowered her as a woman, not just in her own home but in her community as well. Her entire household takes an active part in maintaining the NHG. They now have a nutrition rich meal daily without any additional expense and more savings from the income generated.

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