



**From Garden to Plate:
Strengthening Food and Nutrition Security
through Home Gardens in Cambodia**

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List of acronyms and abbreviations

AC	Agricultural Cooperative
BMZ	Federal Ministry for Economic Cooperation and Development
CAO	Commune Agriculture Officer
CMO	Context-Mechanism-Outcome
CP	Country Package
FUS	Follow-up Survey
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GV-ESRS	Global Program Food and Nutrition Security, Enhanced Resilience
HFIES	Household Food Insecurity Scale
IDDS-C/W	Individual Dietary Diversity Score Children/Women
KII	Key Informant Interview
MAD	Minimum Acceptable Diet
MAFF	Ministry of Agriculture, Forestry and Fisheries
MDD-C/W	Minimum Dietary Diversity Children/Women
MFP	Minimum Farm Package
MoH	Ministry of Health
MPF	Multi-Purpose Farm
MUSEFO	Multisectoral Food and Nutrition Security Project
RQ	Research Question
SD	Standard deviation
ToC	Theory of Change
VHSG	Village Health Support Group
WFP	World Food Programme

Background and Objectives



1.1 Context and Objectives of the Study

This study examines home garden interventions implemented by GIZ as part of its broader efforts to improve food security, nutrition, and resilience through the Global Programme “Food and Nutrition Security, Enhanced Resilience” (GV-ESRS) program, from which the Cambodian country packages “The Multisectoral Food and Nutrition Security (MUSEFO) project started in March 2015 and runs until March 2026. The study aims to assess the effectiveness of different home garden models, understand the conditions under which they contribute to improved dietary diversity and household resilience, and identify key enabling and inhibiting factors. By analysing experiences across different country packages (CPs), the study seeks to generate evidence-based recommendations to refine and scale-up home garden interventions within GIZ programs.

The study will produce two key outputs: country-level reports and an overall report. This document, one of the country-level reports, will provide an in-depth analysis of home garden interventions in Cambodia (Kampot and Kampong Thom), detailing the context-specific experiences, including an identification of barriers and enablers, as well as specific strategies implemented by MUSEFO, results and challenges.



1.2 Background Information on the Country Package

1.2.1 Food and nutrition security in Cambodia

Cambodia has a fertile climate and good growing conditions but is also vulnerable to the effects of climate change in Southeast Asia. The country faces severe droughts, rainy seasons are projected to shorten, and annual mean temperatures are expected to rise by 0.8–1.6°C. Within the last 25 years the Cambodian economy was growing dynamically by 7% each year, with only a slight dip during the COVID crisis. It has reached the lower middle-income status in 2015. In 2021, the agricultural sector represented 22.8% of the country's GDP¹ and employed 30% of the population.² Within the agricultural sector, small-scale subsistence agriculture, such as fisheries, forestry, and livestock, is an important part.

Simultaneously, Cambodia has seen major improvements in food security and nutrition.³ Nonetheless, in 2017, 44 percent of the population still experienced moderate or severe food insecurity, which increased to ~40% in 2022-2024.⁴ Though the dietary energy in people's food intake on average is sufficient, the dietary quality is limited.⁵ In 2018, FAO reported that 69% of the share of the food intake came from cereals, roots and tubers. One of the main reasons was the cost of healthy food, as in 2017, the cost of accessing a healthy diet was 3.6 times the cost of a diet meeting only the energy requirements.⁶ In 2023, the World Food Programme (WFP) Fill the Nutrient

Gap indicated progress but also reported that diets were still inadequate and contribute to all forms of malnutrition. On average, 16% of households could afford a nutritious diet without loans.⁷ Cambodia appeared amongst the worst-ranking countries in terms of diet quality in 2023, especially at the level of dietary diversity.⁸

For child nutrition, the 2020-21 Cambodia Demographic and Health Survey showed that overall, 22% of Cambodian children under the age of five were stunted (and 9% severely stunted), 10% were wasted (with 2% severely wasted), and 16% were underweight (with 3% severely underweight).⁹ Though these rates have decreased slowly since 2014, rates remained high, in particular for stunting in rural areas.

Variation in the nutritional status of children by province is quite evident, with stunting rates at 10.3% (≤ -3 SD) and 26.5% (-2 SD) in Kampong Thom, and at 5.7% (≤ -3 SD) and 28.4% (-2 SD) in Kampot.

Regarding the stunting rates in the target provinces of MUSEFO, in Kampong Thom, rates were higher than the average (27% overall and 10% severe), with similar numbers in Kampot (28% overall and 6% severe). while in Kampot, they were similar (28% overall and 6% severe).¹⁰

1 Final Report of Cambodia Socio-Economic Survey 2021. (<https://nis.gov.kh>)

2 <https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=KH>

3 Cambodia Demographic Health Survey 2021-2022, 2023. <https://dhsprogram.com/publications/publication-FR377-DHS-Final-Reports.cfm>

4 <https://www.foodsystemsdashboard.org/countries/khm#prevalence-of-food-insecurity> (data from FAOSTAT: <https://www.fao.org/faostat/en/#data/FS>)

5 <https://www.foodsystemsdashboard.org/countries/khm#dietary-energy-in-food-supply>

6 <https://www.foodsystemsdashboard.org/countries/khm#cost-of-a-healthy-diet-relative-to-the-cost-of-sufficient-energy-from-starchy-staples-co-hd-co-ca>

7 <https://www.wfp.org/publications/fill-nutrient-gap>

8 Schneider, K.R., Fanzo, J., Haddad, L. et al. The state of food systems worldwide in the countdown to 2030. *Nat Food* 4, 1090–1110 (2023). <https://doi.org/10.1038/s43016-023-00885-9>, page 5.

9 <https://www.foodsystemsdashboard.org/countries/khm#prevalence-of-food-insecurity> (data from FAOSTAT: <https://www.fao.org/faostat/en/#data/FS>)

10 GIZ, March 2022/2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). 3rd Follow-up Survey



1.2.2 MUSEFO project objective and approach

The MUSEFO project is the Cambodian country package of the Global Programme 'Food and Nutrition Security, Enhanced Resilience' under the special initiative 'Transformation of Agriculture and Food Systems – For A Life Free of Hunger', funded by the Federal Ministry for Economic Cooperation and Development (BMZ). The overall aim of the global program is to improve the food and nutrition security and dietary diversity of women of reproductive age, in particular pregnant and lactating women, and children under the age of 2 years.

The objective of MUSEFO is:

- ▶ The nutritional situation of nutritionally at-risk women (aged 15-49) and their children (aged 6- 23 months) living in Kampot and Kampong Thom has improved.

The outputs are:

- ▶ Output 1: The knowledge and attitudes of women and their husbands or male household members regarding balanced nutrition for women and young children, as well as nutrition-related basic hygiene, have increased.

- ▶ Output 2: The capacities of health centre staff and community-level volunteers to convey knowledge about nutrition and nutrition-related basic hygiene (Social Behaviour Change Communication) have been strengthened.
- ▶ Output 3: The diversity of food items in the target region has increased.
- ▶ Output 4: The capacities of the multisectoral national and sub-national coordination units for the planning and implementation of the strategy to improve food security and nutrition have been strengthened.

The implementation period is from March 2015 to June 2026. The main target groups are women of reproductive age in Kampot and Kampong Thom province as well as their husbands and children under the age of 2 years. In addition, the project targets cooperative farmers and key farmers, alongside with health service providers (at health centre), extension services (commune agriculture officers (CAOs)), village health support group members (VHSGs), food vendors, and commune councils.

1.2.3 Area of intervention and target groups

Since 2016, the program has experimented with a spectrum of intervention and production models. Each model combines subsistence, nutrition and income goals to varying degrees. The main intervention is based on four pillars:

Pillar 1: Strengthening capacities of household members and community representatives to support dietary diversity, basic hygiene for women and young children and women's empowerment through business literacy and saving for change.

Care groups plus home garden: Care groups and home visits providing nutrition counselling, targeting primarily women of reproductive age and caregivers of children <2 years, and promoting dietary diversity and a minimum acceptable diet for children, formed the foundation for key messages on nutrition and basic hygiene. Activities included knowledge transfer for breastfeeding, diet and nutrition (such as cooking demonstration on complementary feedings and nutritious recipes), growth monitoring, safe drinking water, hygiene and sanitation, COVID-19 protection measure, home gardening and animal raising.¹¹ Sessions and home visits were led by care group leaders with support from a VHSG.

An extension of the standard care group model including peer education (by care group leaders), also coordinated and empowered women to take part in business literacy capacity development measures (business development and revolving funds), saving for change groups and food banks that buy surplus produce for processing (drying, pickling). This ensure that women participated in income-generation activities and thereby empower them having more financial freedom. This created nutrition-sensitive businesses and a local market for what would otherwise be perishable produce. Care group members were supported in nutri-

tion-sensitive home gardening, primarily for their own consumption, but surplus produce was sold for additional income.

Moreover, nutrition sessions were conducted at workplaces, such as factories, aimed at improving breastfeeding behaviour and enhancing dietary diversity among pregnant and lactating women, as well as complementary feeding practices. This includes establishing lactation rooms, training employers and staff on breastfeeding, labour law, and nutrition counselling, as well as conducting a feasibility study on extending maternity leave and increasing compensation.¹²

Lastly, to link food environment and consumer behaviour, food and street food vendors were trained in business development, hygiene, and nutrition. They were also provided with ideas for nutritional improved food recipes to sell at the food outlet.

Pillar 2: Strengthening capacities of healthcare personnel to impart knowledge about nutrition and basic hygiene.

Health service providers have been trained on nutrition counselling of pregnant and lactating women and children <2 years during natal and post-natal care visits at the health centres. Health service providers, VHSGs and care group leaders were trained on the Growth Monitoring Policy and undernutrition screening.

Pillar 3: Nutrition-sensitive agriculture and small agribusiness and food companies

Agricultural advisors have been trained and educated on nutrition-sensitive agriculture; recipes for nutritious and safe street food have been developed and disseminated and food vendors in communities, outside schools and health centres and factories have been trained in order to promote healthy, safe and diversified meals. Additionally,

11 GIZ, October–November 2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). Focus Group Discussions with community. Qualitative Report. 2nd Follow-up Survey

12 GIZ, November 2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). Focus Group Discussions with factory workers. Qualitative Report. 2nd Follow-up Survey

support has been provided to small agricultural and food businesses to promote the production of healthy and safe food.

Within Pillar 3, the home garden concept has been promoted and implemented through knowledge transfer from key farmers to cooperating farmers in climate-resilient, nutrition-sensitive agriculture, aiming to improve year-round food availability.

Multi-purpose farms (MPFs) are established on plots smaller than 0.2 ha, where key farmers integrate vegetables, fruit trees, and small livestock. Composting, drip irrigation, and seed kits support year-round production. Each village had one MPF serving as a model for other cooperating farmers.

At a smaller scale, the project implemented the Minimum Farm Package (MFP), a lean entry model designed for land-poor households that provides seeds, bucket irrigation, and three coaching visits. The MFP includes three vegetable varieties, three fruit trees, one moringa tree, and a small livestock scheme maintained year-round. Surplus produce (in small quantities) from the

food gardens is sold to generate additional income, allowing households to access foods not produced on their own farms.

To support farmers in the communities, the project has supported the Ministry of Agriculture, Forestry and Fisheries (MAFF) in establishing and training a total of 1,600 agricultural officers nationwide to provide extension services to farmers, including training on nutrition-sensitive agriculture.

Additionally, the project developed a monitoring and evaluation tool (Farmbook) to enable the government to formulate evidence-based strategies and policies.

On a larger scale, agricultural cooperatives (ACs) were supported with the NetHouse Vegetable Garden. Light steel frames covered with insect-proof netting protect high-value leafy greens and tomatoes from pests and heavy rain, while drip irrigation reduces water use by approximately 40%.

Agricultural cooperatives Cluster & Market Link. ACs aggregate surplus, negotiate prices, and run collective facilities (cool rooms, transport). Net-housing clusters linked to ACs have tripled off-farm income for participating women and sold produce at a reduced cost to IDP poor families (reaching a 30% cost reduction).

Since 2024, care group members and leaders, established local food banks which purchase unsold garden output, process it through drying or pickling and distribute it to communities and through social protection channels. This includes surplus buffalo milk supplied by farmers trained in buffalo milk production. Food banks commit to selling these products at social prices to IDPoor 1 and IDPoor 2 households as well as school canteens, effectively extending the subsidy to end consumers.

Together with the MAFF, its district authorities and the private consulting service provider of the 'Chamka App,' Commune Extension Workers (now CAOs) were trained on various topics related to nutrition-sensitive agriculture, enabling them to provide extension services to farms on those topics.



Pillar 4: Nutrition governance

This pillar includes activities that support policy development and implementation, with a particular focus on scaling up and strengthening the capacity of coordination mechanisms involving various governmental partners, such as the Council of Agricultural and Rural Development, the Ministry of Health, the Ministry of Agriculture, Forestry and Fisheries, the Ministry of Planning, and the Ministry of Women's Affairs. In addition, national government funds were leveraged at the commune level through commune investment planning to support nutrition-sensitive activities at the community level. Part of the commune budget was allocated to home garden initiatives, with an average of USD 3,000–4,000 per year spent on activities such as training farmers in vegetable cultivation techniques and providing them with vegetable seeds.¹³

1.2.4 Theory of change

MUSEFO aims at improving the dietary diversity of targeted women of reproductive age (15–49 years) as well as men in their households. Additionally, the number of infants and young children (6–23 months) receiving a minimum acceptable diet shall be improved in terms of meal frequency, quality and breastfeeding.

Farmers are trained in climate-resilient, nutrition-sensitive agriculture, which aims to strengthen the availability of nutritious, diverse food (vegetables, fruits, and small animal products) at the household level. Surplus produce (small quantities) from the food gardens can be sold enabling the households to generate additional income and/or access types of food that are not produced on their farm. MPF are introduced as a part of a larger governance approach, of

which the MFP is one of the tools. On each MPF, families learn hands-on how to integrate home gardens, small livestock, fruits, vegetables and legumes (cover crops) into their home garden. The CAOs coach them in nutrition-sensitive and climate-resilient agriculture and used the same MPF as demonstration sites. In parallel, care group members are trained and informed about the basics of good nutrition, which helps to increase the demand for and use of nutritious food, while health service staff and volunteers are trained to conduct growth monitoring and provide nutrition counselling, which helps to identify those among the target group who are most nutritionally vulnerable. Counselling sessions, whether at health centres, by the CAO or by the VHSGs and MPF visits, are recorded in real-time, supervisors monitor key indicators, such as dietary diversity, breastfeeding practices, which allows them to address gaps that appear through targeted support.

The project anticipates that this comprehensive approach would increase the uptake of recommended desirable behaviours, related to complementary feeding and on-farm diversification practices (short-term outcomes), leading to measurable reductions in child malnutrition as nutrition-sensitive agriculture becomes embedded in routine extension and workplace health services (medium-term outcomes). Ultimately, sustained multisectoral coordination between the Ministry of Health and the Ministry of Agriculture, Forestry and Fisheries, workplace managers and community actors supports the creation of a conducive environment for MPFs to become enduring hubs of food security and health, ensuring lasting gains in household nutrition, maternal and child health, and rural livelihoods (long-term impact), provided the continued commitment of the key stakeholders, reliable connectivity and supportive policies.

13 MUSEFO monitoring data; Unpublished data



1.3 Methods

The study has been structured at the country package level to ensure a context-specific and comprehensive analysis. The first step involved reconstructing the Theory of Change (ToC) at both the global and country program levels, based on key informant interviews and document review, allowing for a clear articulation of expected pathways of impact. The ToC for MUSEFO, as designed by the project, is included in Annex 1. Based on the nine research questions (RQ) (Annex 3), four interview guides were developed for key informant interviews (KIIs) with country package staff, implementing partners, institutional stakeholders, and members of the targeted communities.¹⁴ The information collected has been triangulated to detect potential contradictions between sources or information gaps.

Data for the study on home gardening came mainly from the following sources:

- i. relevant project documentation, supported by AI tools (ChatGPT) to enhance efficiency.
- ii. relevant literature from other sources
- iii. 8 KIIs with selected stakeholder (two from GIZ Cambodia CP, four from implementing partners and two from local government partners). These were identified by CP staff based on their knowledge and involvement in home garden activities (see Chapter 1.3.3), and
- iv. analysis of quantitative data from the Follow-up Surveys (FUS) conducted in Cambodia.

¹⁴ Included in selected countries only, not in Cambodia. Therefore not in the annex.



The collected information has been triangulated to detect potential contradictions between sources and/or information gaps wherever possible (see [Annex 3: Research question](#)).

1.3.1 The Realist Approach

A realist approach was chosen for the study to account for the complexity and context-dependency of home garden interventions. This approach seeks to determine what works, for whom, under what circumstances, and why. The collected information has been analysed through the Context-Mechanism- Outcome (CMO) framework, enabling the identification of patterns and mechanisms that drive the success or limitations of home gardens. The findings contribute to refining the initial ToC and providing practical insights for future program design and implementation.

1.3.2 Desk research / AI analysis

The reports listed below have been used for the analysis. The answers from key informant interviews, from these documents and the FGD data from the FUS reports have been categorised under each of the questions and the consultant has performed a trend analysis, searching for common trends and differences. Various information sources have also been utilized for triangulation. These sources have been used:

1. **relevant project documentation by ChatGPT**
2. **additional documentation on the project**
3. **background documentation on MUSEFO in general**
4. **unpublished internal documents such as FUS reports**

The list of documents reviewed can be found in [Annex 3](#).

Information from KIIs, is referred to under each research question where relevant, that is adding to what is known from other sources, confirming (or not) ambivalent findings or outright contradicting findings. This allowed in some cases robust triangulation, in other cases to rejection of earlier suppositions and/or hypotheses.

1.3.3 Interviews and FGDs

The consultant, responsible for the analysis in Cambodia, did not visit the country; therefore, no FGDs were conducted. Interviews were conducted with the following informants (see [Annex 2](#)):

- › Mr. A, GIZ MUSEFO Cambodia
- › Mr. B, GIZ MUSEFO Cambodia
- › Mr. C, Implementing Partner CEDAC, Kampong Thom (Community Level)
- › Ms. D, Implementing Partner CEDAC, Kampong Thom (Community Level)
- › Mr. E, Implementing Partner CEDAC, Kampong Thom (Community Level)
- › Ms. E, Government Partner PDAFF, Kampong Thom (Department of Agriculture, Provincial Level)
- › Mr. F, Government Partner PDAFF, Kampot (Department of Agriculture, Provincial Level)
- › Mr. G, Implementing Partner, CEDAC. Kampot and Kampong Thom (Provincial Level)

1.3.4 Limitations of the study

Majority of projects documents are produced in local languages and hence difficult to use for the consultant; while the availability of documents in English was scarce. Due to time constrains, the nature of the study and language barrier, the number of key informants were somewhat small, and limited to government partners and implementing partners within the agricultural sector. Therefore, it was not possible to interview beneficiaries in surveys or focus group discussions, to triangulate the perceptions of the key informants, who may have looked on the results from another angle.

Results

2



2.1 Presentation of Context-Mechanism-Outcome Statements

2.1.1 Context-Mechanism-Outcome 1:

In the MUSEFO target provinces in Cambodia, building the capacity of health workers and agricultural staffs (both government and implementing agency partners) in combination with training of beneficiaries on how to produce diversified food in home gardens contributed to a better Individual Dietary Diversity Score (IDDS) for women and Minimum Acceptable Diet (MAD) for children, in food secure and food insecure households.

2.1.2 Context-Mechanism-Outcome 2:

In the MUSEFO target provinces in Cambodia, combining capacity building for government staff (health and agriculture) and the target population with support for nutrition governance enhanced the likelihood of the results being sustainable.

2.1.3 Context-Mechanism-Outcome 3:

In the MUSEFO target provinces in Cambodia, providing women of reproductive age with a combination of nutrition and basic hygiene awareness and support to establish and implement a home garden with a variety of food items, combined with among others saving for change, business development, and revolving funds, contributes to their empowerment.



2.2 Study Results per Research Question

2.2.1 Contribution of home gardens to crop diversity and food groups produced at household level (RQ1)

The nature of home gardens in MUSEFO

The MUSEFO project in Cambodia started by targeting key farmers and cooperative farmers, thus with a relatively large proportion of men who implemented the MFP. From 2020, MUSEFO shifted towards supporting care group members with home gardening using the MFP approach. Home gardens from then on had a central place in the project. Home gardens have been implemented in the context of nutrition-sensitive agriculture and are established on relatively small plots of land (homesteads). A minority of the targeted smallholder farmers also has access to larger plots of land. The project also supported agricultural cooperatives to produce more nutritious foods (vegetables seeds including rice were provided) to reduce the impact of inflammation (global impact). In addition, foods produced were sold at subsidized cost (-30%) to vulnerable families (IDPoor 1 and 2). The aim was to focus on nutrition- and climate-sensitive agriculture. Small farmers had home gardens before MUSEFO but they would not plan their crops and only grow one or two vegetable crops. MUSEFO taught them how to plan, now growing many vegetable and fruit types throughout the year.

Linking home gardens with diversified food production in vulnerable communities

Home gardens contributed to the diversity of crop production. Assessments done by various organisations (i.e. FAO) describe the proportion of missing food groups as decreasing after MUSEFO had started,¹⁵ indicating that it was successful. Also, the contribution of animal proteins was strengthened through the support of the project, which was previously limited in target people's diets. Though more than 90% of people already owned (small) livestock, they did not always consume the produce. Lack of planning was observed, similar to crop production, and MUSEFO helped beneficiaries to plan their access to and variety of animal proteins, according to their needs and liking.

Previous studies looked at the correlation between having a home garden, producing promoted crops and food security status. The data showed that both food secure and insecure households produced more of the promoted crops, if they had a home garden. The Individual Dietary Diversity Score Children/Women increased in food secure households through the production of these promoted crops. However, there was no such effect in food insecure households, which could reflect that produced were being sold for income rather than consumption.¹⁶

15 FAO, Prevalence of food insecurity <https://www.foodsystemsdashboard.org/countries/khm#prevalence-of-food-insecurity> (data from FAOSTAT: <https://www.fao.org/faostat/en/#data/FS>)

16 For a disaggregated assessment of the effect of home gardens on food secure and food insecure households, the HFIES indicator was used. Food secure households are defined by HFIES classification of either food secure or mildly food insecure, while food insecure households are defined by HFIES classification of either moderate or severely food insecure.

Table 1 - Influence of the possession of a Home Garden on the production of promoted foods and effect of growing promoted food on IDDS (regression model)

	Food insecure households (cf. HFIES)	Food secure households (cf. HFIES)
Possession of a home garden (Y/N)	Effect on production of promoted food crops 8.3 +/- 3.9 (HOGAR = 1) 2.8 +/- 1.9 (HOGAR = 0) P <0.001	Effect on production of promoted food crops 8.4 +/- 3.9 (HOGAR = 1) 3.5 +/- 1.9 (HOGAR = 0) P <0.001
Production of promoted food crops	Effect on IDDS Not significant (by median) IDDS-W, p= 0.1 IDDS-C, p=0.06	Effect on IDDS Significant (by median) IDDS-W, p= 0.04 IDDS-C, p=0.006

The general impression among most interviewees was that there is no difference between households with different food security statuses. Some state that people who are not very poor may have more money but have equally limited knowledge on healthy diets, including breastfeeding and complementary feeding, and MUSEFO helped address this. There was also an interviewee who perceived that very poor households benefited more; he said that the money they would save on not having to buy vegetables and what they would earn from surplus would have a greater impact on their usual spending pattern than for those who have a bit more money to spend.

2.2.2 Improving the dietary diversity of women and children (RQ2)

This section assesses the influence that home gardens has had on various aspects such as the dietary diversity score and dietary intake, and the influence of nutrition counselling.

Influence of home gardens on the dietary diversity score of food-insecure women in the MUSEFO project

The dietary diversity for women (IDDS-W) increased among households with a home garden that were food insecure; among households that were food secure, this effect was not significant.

Table 2 - Influence of possession of a home garden on IDDS (T-test) in food insecure and food secure households

	Food insecure households (cf. HFIES)	Food secure households (cf. HFIES)
Possession of a Home Garden (Y/N)	Effect on Dietary diversity IDDS-W 5.2 +/- 1.2 (HOGAR =1) 4.8 +/- 1.3 (HOGAR=0) P=0.23 IDDS-C 4.3 +/- 1.1 (HOGAR =1) 3.8 +/- 1.4 (HOGAR =0) P=0.014	Effect on Dietary diversity I IDDS-W 4.8 +/- 1.3 (HOGAR =1) 4.8 +/- 1.2 (HOGAR =0) P=0.47 IDDS-C 3.9 +/- 1.1 (HOGAR =1) 3.5 +/- 1.4 (HOGAR =0) P=0.08

The poorest households consumed foods that were available before the project; they lacked the opportunity to enjoy a diverse diet. If people are vulnerable but not IDPoor 1 or 2, according to interviewees, they are more interested in and able to provide a diet for their children that reaches

the parameters for a minimum acceptable diet, in terms of meal frequency and dietary diversity. Nonetheless, in interviews it was shared that knowledge of producing and consuming a diverse diet and adequate nutrition for women and children was limited in food secure as well as

food insecure households, and the interviewees therefore believed that all beneficiaries benefited from nutrition counselling.

MUSEFO also targeted landless people (~10% of the target group). They participated in the activities and grew the produce they were able to produce.

Influence of home gardening on dietary intake and vice versa

As for the influence of home gardens on the nutrition indicators, the proportion of people having a home garden is almost the same between the beneficiaries and the control group,¹⁷ but the latter are not supported with training on growing, nutrition and other types of support. FUS III demonstrated that all nutrition indicators improved for women and their children when households produced more of the promoted food crops.¹⁸

Beneficiary children consumed more dairy products during FUS II compared to baseline and FUS I. Compared to FUS I, they consumed more fruits and vegetables, dairy products and eggs. Still, they consumed less Vitamin A rich fruits and vegetables and less flesh foods. The FUS II analysis revealed a significant relation between crop diversity (in the home garden) and children achieving MDD-C and MAD.¹⁹ FUS III found a strong positive correlation between production and consumption of promoted food items for both women and their children. The vegetable diversity score for the FUS III intervention group was significantly higher than in the control group under FUS III.²⁰ For mothers, under FUS III, it was found that the diversity of available (produced) fruits was positively correlated with the nutrition indicators. The MDD-W has reached the target level. Though in general, the availability of various food crops was not a major problem before

MUSEFO, the project helped ensure that people would indeed produce and consume a variety of crops.²¹

Women and children in the target provinces are more often stunted than on average (in 2014 in Kampong Thom, 36.4% were moderately stunted and 10.7% severely; in Kampot, 25.2% moderately stunted and 10.3%, severely).²² Whilst stunted, they are also likely to have a compromised micronutrient status. The suggested garden crops are adapted to this, through diversity in crops, the use of animal protein, and crops with a high micronutrient content such as spinach, pumpkin, sweet potato, beans, mango, morning glory and moringa. Moringa was not part of the food habits before MUSEFO. Nowadays, people consume it in various ways – for example, in omelettes, soups, or mixed into children's meals. The promotion of moringa has provided the beneficiaries with a weather resistant long-lasting food source that provides iron. The promotion of animal-protein based food groups has covered some of the gaps that had been identified in their regular diet. It is expected that the protein intake has improved (in women and children), although measuring food quantities is beyond MUSEFO's scope.

17 As was also indicated under question 1, most beneficiaries had home gardens prior to the project, but MUSEFO helped them to use the gardens in producing more variety and better quality.

18 For instance, women producing and consuming promoted produce in the fourth quartile were three times more likely to achieve MDD-W than the first. Similar results were found for children in FUS III.

19 GIZ, March 2020. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). Focus Group Discussions with factory workers. Qualitative Report. 2nd Follow-up Survey

20 GIZ, March 2022/2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). 3rd Follow-up Survey

21 GIZ, March 2022/2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). 3rd Follow-up Survey

22 Cambodia Health and Demographic Survey 2014.

Influence of nutrition counselling of women and children in the MUSEFO project

Nutrition counselling under MUSEFO aimed at improving dietary quality and diversity. Mothers acknowledge the importance of good nutritional practices, but the women reported that they struggled to implement them. Nonetheless, they observed positive health outcomes in their children, including less illness and proper growth.²³

The MUSEFO FUS I, II and III measured individual dietary diversity and minimum dietary diversity for women, and minimum dietary diversity and minimum acceptable diet for children during the 10-year project period from baseline (2015) through FUS I (2018) to FUS II (2021).

In FUS III, the nutritional indicators of children and mothers in intervention households increased, whereas no change was found for the control group children. The food security situation remained similar in both groups. It was therefore concluded that the nutrition-related activities, and potentially also the diversified foods from the home gardens, had positively influenced these results.²⁴

Other forms of support to improve food diversity and nutrition

Combining the support in varied food production with nutrition education has helped smallholder farmers to produce the food items that are needed to sustain a diverse diet. Education on nutritional topics, such as hygiene, food safety, breastfeeding and complementary feeding, has further strengthened the effect on the nutritional status, according to interviewees. Furthermore, education on food processing and avoiding food wastage enhances the actual availability of such food items. Additionally, the promoted use of crop rotation has led to a larger availability of food items per se.

The local food supply at community level has increased in terms of quantity and diversity. 38% of beneficiaries sell part of their surplus produce of very varied food items.²⁵ The home gardens have a positive influence on the availability of food items in the communities and markets on the diversity of food items that is available. Some target farmers sell the surplus produce because they cannot consume all food on their own, especially during harvest season. They share it also with neighbours at a small cost.

The cascade approach with one key farmer training ten other farmers (Cooperating Farmers) has a positive influence on local food supply in terms of quantity and variety at community level.

2.2.3 Utilization of grown food (RQ3)

Selling or consuming food production and its effects

The largest part of garden produce is consumed at home. Products are mainly consumed by the household, while in harvest season a part is also sold: In 2022, 38% reported that they sold part of the produce and found this an additional benefit of the home garden; 22% ate all the produce and 40% ate most of it.²⁶

Analysis of survey data found that consumption of the produced food is a very important factor for the MDD-W and MDD-C. In both food secure and insecure households, participation in interventions and production of promoted food crops has a positive effect. In food insecure households diversity of fruits also contributed positively. In food secure households, according to the FUS findings, animal diversity contributed negatively with children's MAD indicator. The survey concluded that perhaps food was given first to the animals around the house, causing negative effects on the children's dietary diversity and/or women being busier with taking care of animals might cause negative effects on the children's meal frequency (MMF-C).

23 Ibid.

24 GIZ, March 2022/2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). 3rd Follow-up Survey

25 Angkor Research and Consulting Ltd November 2022. Final Report: Multi-Sectoral Food and Nutrition Security (MUSEFO). Output Assessment, 2022

26 Ibid.

Table 3 - Variables significantly associated with predicting the outcome variable in the regression model - Expected proportion of vegetable sold vs. consumed

	Food insecure households (cf. HFIES)	Food secure households (cf. HFIES)
Expected share of vegetable sold vs. consumed	<p>Odd ratio in reg models to predicting MDD-W or MDD-C/MAD</p> <p>Variables predicting MDD-W: Participation interventions (sig 0.015, Odds 1.3)</p> <p>Consumption of promoted food crops (quartile 4) (sig 0.04, Odds 64.3) Diversity of fruits (sig 0.02 Odds 2.7)</p> <p>Variables predicting MAD: Consumption of promoted food crops (quartile 3) (sig 0.04, Odds 12.1)</p>	<p>Odd ratio in reg models to predicting MDD-W or MDD-C/MAD</p> <p>Variables predicting MDD-W: Participation interventions (sig 0.008, Odds 1.13)</p> <p>Variables predicting MAD: Consumption of promoted food crops (quartile 3) (sig 0.023, Odds 5.5)</p> <p>Animal diversity (sig 0.04, odds 0.5)</p>

Reasons for selling or consuming food produced in home gardens

The implementing partners reports that beneficiaries have no preference in what they eat or sell; in general, produce is only sold once there is more than the household can consume. This is also promoted by MUSEFO. Government partners said that before MUSEFO, smallholder farmers would sell the best quality products and eat what was of lower quality. Support by MUSEFO led to them having increasingly diverse food available and convinced them of the importance of consuming their own food items coming from their garden and animals, and all interviewees believe this happened.

Thus, the consumption of home-grown food increased the diet quality and diversity of the targeted people. For IDPoor 1 or 2 participants, it helped create a basis of healthy food, starting with an improved quantity, whereas for somewhat better off people it contributes more to the quality and diversity of the diet.

2.2.4 Context-adjusted effectiveness of different types of home gardens (RQ4)

The project only used the homestead garden approach. Support was provided where gardens were already available. MUSEFO built the capacity of one key farmer to implement a MPF per village, who trained at minimum of ten cooperation farmers on home garden (MFP) and nutrition. Also, seeds were provided and nutrition counselling and education, hygiene and WASH and growth monitoring were available for participants.

The two target provinces were selected for the suitable circumstances for home gardening. There is little flooding, but excessive rain is quite regular, especially in September and October. However, according to a MUSEFO outcome assessment in 2022, flooding was raised as an issue by 31% of beneficiaries, whereby only 2% raised drought as an obstacle.²⁷ As this has been assessed for 2022, it cannot be ruled out that drought will be increasing with climate change. Furthermore, 36% said they had too little land and 20% found the crop could be destroyed by animals.²⁸ At a later stage, MUSEFO expanded its intervention to work with 100 ACs in three provinces, namely Kam-pot, Kampong Thom and Takeo provinces. This intervention has reached a total number of 4,021 members (out of which 2,250 female).

27 Angkor Research and Consulting Ltd November 2022. Final Report: Multi-Sectoral Food and Nutrition Security (MUSEFO). Output Assessment, 2022

28 Ibid.

2.2.5 Multiplying or inhibiting factors for availability of nutrient-rich foods (RQ5)

Factors influencing production of nutrient-rich foods from home gardens

Some factors affect the production of nutrient-rich food. Water was an enhancing or inhibiting factor for producing nutrient-rich food. Production was best when there was enough water available (including irrigation) and if there was not too much flooding. FGDs brought out that maintaining a home garden is only suitable for those living at a relatively short distance from a well or other water source.²⁹ In some months (March, April and May), the availability of water can be constraining. MUSEFO has promoted the production of crops that need less water, tree-shape crops (such as moringa that needs less water), or crops with a long lifetime. If seeds are not available as they were under the project, for some households, the cost aspect is prohibitive, though not for all.

Labour and time investment were brought up as influencing factors in the surveys. Some of the participants found that they are too much occupied by income generation from the garden or find the garden too much effort (42% in the 2022 Output Assessment). MUSEFO has selected two provinces with low migration rates. Still, during the implementation, migration could be an issue. People, especially men, moved to neighbouring provinces and to other countries (e.g. Thailand). Thus, most of the work in the gardens has often been on the shoulders of women. Women, in particular if they have to spend time working outside of the house, often lack the time to produce and harvest fresh produce and prepare meals with it.³⁰ At times they resort to buying from street vendors, even if they are aware that this food is not healthy as well as oftentimes not hygienically prepared.

Therefore, the MUSEFO project worked closely with the street vendors to adapt local recipes to be more nutritious and provide trainings on basic hygiene.

As for excess produce, this often occurs at a time when everyone harvests the same food items, resulting in low demand. The new products; moringa, dragon fruit and okra partly address this, as they are not so widely produced. In addition, MUSEFO has promoted the neglected food such as ivy leaf and leucaena where they could easily be harvested from their living fans and use in their food recipes.

MUSEFO also included animal proteins through growing small livestock around the household and eating their produce, as well as through food processing (buffalo yoghurt making and fish powder production). The production of livestock products was less affected by changing weather circumstances, and access remained relatively stable.

The knowledge provided alongside the training for home gardens promoted the production. Beneficiaries found that their knowledge of food production and consumption had increased well under MUSEFO. Mothers' awareness of the nutritional value and potential sales value of the food produce does give a positive impetus to using the home gardens.³¹

29 GIZ, November 2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). Focus Group Discussions with factory workers. Qualitative Report. 2nd Follow-up Survey

30 GIZ, December 2021. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). Focus Group Discussions with factory workers. Qualitative Report. 1st Follow-up Survey

31 Ibid.



Factors influencing the consumption of nutrient-rich foods

Hygiene, cost-effectiveness and family well-being emerge as recurring themes that positively influence food decisions. A total of 74% of beneficiaries find that the home garden supports the health of their family.³² Moreover, the women acknowledge that their products are chemical free and potentially more healthy than store-bought vegetables and fruit.³³

Promotion of techniques to lower food wastage under MUSEFO helped increasing their availability for consumption. Through the food banks, the project has promoted post-harvest techniques to reduce wastage. As an example, MUSEFO promoted drying vegetables and fruits (for instance mango and banana), fermenting and pickling of food, like cucumber and cabbage and sour mustard, and producing fish powder and buffalo yoghurt.

Lowering economic constraints has helped increase the quantity of nutrient-rich food for consumption for poor households. Previously, poor households did not have sufficient money for healthy diverse food.

Having access to products from home gardens helps them lower the expenses on food. When not having such access, their budget is often too small to ensure the necessary diversity. Selling the surplus produce gives an extra financial boost. Women working in factories struggle with low salaries and high cost for raising young children. Therefore, the availability of home gardens and the produced products serve as an affordable source of food.³⁴ In the output assessment, 93% of beneficiaries stated that home garden had reduced their expenses for food.³⁵

Lastly, the preference of children for snacks and other non-healthy foods is reportedly constraining parents' effort to provide them with a healthy

32 Angkor Research and Consulting Ltd November 2022. Final Report: Multisectoral Food and Nutrition Security (MUSEFO). Output Assessment, 2022

33 GIZ, March 2022/2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). 3rd Follow-up Survey

34 GIZ, November 2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). Focus Group Discussions with factory workers. Qualitative Report. 3rd follow-up survey

35 Angkor Research and Consulting Ltd November 2022. Final Report: Multisectoral Food and Nutrition Security (MUSEFO). Output Assessment, 2022

balanced meal, especially if they have to balance a number of priorities.³⁶ It was also reported though, that nutritious food in Cambodia is still typically cheaper than “junk food”,³⁷ which should make it easier for parents to provide nutritious foods.

Food taboos and newly introduced foods

There are a few other factors affecting the consumption of nutrient-rich food. One of this is related to food taboos in Cambodia. E.g. that women who have just delivered a baby should avoid meat, egg plants and bamboo. Some mothers and pregnant women used to avoid foods they believe could have negative effects, such as certain fish, mushrooms, bananas, egg plant or bamboo, which were considered unsuitable for them. In the nutrition awareness raising of MUSEFO, such topics are included. As a result, a few mothers increased their consumption of vegetables, fruits, and plain foods while avoiding processed or fermented items.³⁸

Some new foods introduced by MUSEFO were more nutritious than those commonly consumed, such as moringa, dragon fruit, chaya, and okra. Though, there were difficulties to introduce these at the beginning. These food items were gradually introduced in the training and recipes were shared; by now most target farmers grow and use these food products.

2.2.6 Contribution of home gardens to women empowerment (RQ6)

Effect of home gardens on women’s empowerment

Empowering women is very important in-home gardens. Regression models in FUS have shown that the degree of women’s empowerment has a positive influence on the dietary diversity of children. Nonetheless, the survey did not find an effect of the home gardens on women’s empowerment.

Table 4 - Influence of home gardens on women’s empowerment

	Food insecure households (cf. HFIES)	Food secure households (cf. HFIES)
Women’s empowerment level	Effect on dietary diversity When the inadequacy index is lower (more empowerment) the IDDS of children is significantly higher 3.9 +/- 1.2 (CI < 0.07) 3.4 +/- 1.3- (CI >= 0.07)	Effect on dietary diversity When the inadequacy index is lower (more empowerment) the IDDS of children is significantly higher 4.3 +/- 1.1 (CI < 0.12) 3.8 +/- 1.3- (CI >= 0.12)
Possession of home garden	Effect on women’s empowerment No effect worth mentioning.	Effect on women’s empowerment No effect worth mentioning.

The interviewees on the other hand said that women are empowered by the home garden activity to some extent, though the evidence was anecdotal. Now, even if they stay at home, they are more successfully engaged in an activity that is deemed suitable for women. They can select and

sell the crops from the home garden. On the other hand, according to MUSEFO NGO partners, the distribution of decision making has remained similar: women decide on smaller things, such as education, clothes and food, and men decide about large expenses such as land and large

36 GIZ, December 2021. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). Focus Group Discussions with factory workers. Qualitative Report.
 37 Angkor Research and Consulting Ltd November 2022. Final Report: Multisectoral Food and Nutrition Security (MUSEFO). Output Assessment, 2022
 38 GIZ, November 2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). Focus Group Discussions with factory workers. Qualitative Report. 2nd Follow-up Survey



livestock. Though women may make more decisions in medium-size expenditure, large investments remain the area of men.

Engagement of women and men in MUSEFO

Engaging women in MUSEFO has not been too challenging, they were available and enthusiastic. Men on the other hand were often outside the community for work, and therefore difficult to include them in activities. A few men in the households grow crops for sales on another plot of land. However, most men work outside the household to generate an income, many of them in construction. Most of the men are too busy in such lines of work to be able to contribute to childcare or household nutrition and moreover, the majority sees that as a woman's task.³⁹

In the nutrition and health sessions, primarily women were participating, but men who were home were encouraged to participate, the same was the case during home visits. Half of the men were able to present knowledge that their wives transferred to them, but the other half had challenges in terms of nutrition and diversified diets.⁴⁰

Women usually share the work in the home gardens to a certain extent with men. Men are responsible for land preparation and irrigation, but these tasks take place at the start of the season only. The workload is therefore not always evenly distributed. Women were more often busy with growing vegetables and raising livestock. Many women also did not mind, as they saw it in exchange for more knowledge and healthier children. In 2021, the workload of women was reported as increased because of their participa-

39 Ibid.

40 Ibid.

tion in the project, since they frequently participated in training and sometimes also provided training to others, additional to taking care of most of the daily work in the home garden.⁴¹

Engaging men does have positive results. FUS III found a positive association between the help of men that women received in their agricultural tasks and the chance of them achieving their minimum dietary diversity. There was also a positive association between the help that women received in their agricultural tasks and their likelihood of participating in a women's group.⁴² Nonetheless, none of the FUS surveys availed of sufficient credible data to report more on the effect of gender and women empowerment in MUSEFO.

Decision-making by women and men

A cross-country gender study found that women mostly decide on what is consumed in terms of food groups while men decide on what is produced. In general, men let the decisions on consumption and food preparation to the women. With the home gardens, beneficiaries find that the production-related decision shifts to the women, making them socially and economically more powerful. Whereas in many cases the men were solely responsible for the household income, especially in rural areas, now women contribute with the earnings they get from surplus sales. All the interviewed Cambodian women in the cross-country study said that the project had empowered them.⁴³

Especially in very poor households, women say that the produce from home garden sales has helped to send their children to school, who had dropped out previously because the household could not afford school materials and transport.

2.2.7 Contribution of home gardens to enhanced resilience (RQ 7)

Link between availability of nutritious food items and resilience

Having more and a larger variation of nutrient-rich food items available, regardless of the socio-economic status of the household, adds to the resilience of the household. Being able to sell a small part helps them to generate a small but regular income stream.

In 2023, the MUSEFO beneficiaries used an equal number of positive coping strategies as compared to the control group. MUSEFO beneficiaries were also found to have used negative coping strategies a bit more often than non-beneficiaries, since the latter did not even have that opportunity. On the other hand, beneficiaries faced considerably less crises than people in the control group. It was also found that in the control group, there is only a small difference in the IDDS-W between women facing crises and women not facing crises; for MUSEFO beneficiaries the difference was more prominent. This indicates that the control group is less resilient than MUSEFO participants to crises if their dietary diversity decreases. FUS III found signs of lower vulnerability of MUSEFO women to crises, possibly related to the better access to home gardens, which impacts their dietary diversity. These women were apparently able to better maintain their dietary diversity even when faced with crises.⁴⁴

Additionally, the ability to sell part of the produce in the fertile conditions of Cambodia provides the target households with a regularly occurring source of income, which supported their overall resilience.

41 GIZ, September 2021. Multi-country Gender Study within the Global Programme "Food and Nutrition Security, Enhanced Resilience". Cross-Country Analysis Report

42 GIZ, March 2022/2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). 3rd Follow-up Survey

43 GIZ, September 2021. Multi-country Gender Study within the Global Programme "Food and Nutrition Security, Enhanced Resilience". Cross-Country Analysis Report

44 GIZ, March 2022/2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). 3rd Follow-up Survey

Environment and resilience through home gardens

Weather and climate conditions have the potential to negatively affect households' resilience. There is increasing drought in Cambodia and the project therefore has introduced a focus on drought-resistant types of food items. Moringa is one of the examples of a drought resistant crop. Flooding can be a threat but is not a major issue yet. At certain points in time during MUSEFO, crops were partially destroyed. Flooding never destroyed the entire crop though, so households still had food available to eat; they were not discouraged to continue the next season.

2.2.8 Sustainability of home-garden intervention (RQ8)

Institutional sustainability

Sustainability is achieved through strengthened capacities of institutions that provide support in setting up and implementing home gardens (extension workers, MAFF) as well as in promoting dietary diversity and nutrition (health staff, volunteers, MoH).⁴⁵ MUSEFO has built the capacity of extension workers and health staff and volunteers, which for a large part will continue to exist. If dietary diversity and breastfeeding are integrated into health protocols, this will have a lasting effect through current and future counseling.

Sustainability at beneficiary level

Sustainability was also witnessed at beneficiary level. The knowledge and awareness gained by beneficiaries will last, especially since they realise how they benefit from the knowledge. Despite the partly small land size of their houses, in a 2023 survey some of the beneficiaries were still practicing home gardening by using the land space in front of their houses. Some of them even used reusable tubes, cement packages or car tires



⁴⁵ GIZ, November 2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). Focus Group Discussions with factory workers. Qualitative Report. 2nd Follow-up Survey

to grow their plants. Nonetheless, there were also beneficiaries who stopped practicing home gardening due to busy schedules, droughts, and floods, while others had their crops on and off.⁴⁶

The cascade training approach used by MUSEFO has its benefit for sustainability; implementing partner staff reports that former beneficiaries share their continuous achievements, which include not only ongoing production and sharing/sales of home garden produce but also sharing of knowledge with neighbours and in the community. Staff from government provincial agriculture departments, crop and livestock, has also been engaged in training and implementation, which adds to sustainability since they will remain in place after the project, contrarily to most NGO partners.

The attention by MUSEFO to the environment will also help sustainability: the project has promoted making and using compost, and use of organic pesticides and fertilisers. There is an increasing interest in Cambodia for food safety, hence this approach makes the home garden produce even more interesting and valuable. In terms of water, MUSEFO did not include any concrete support. However, drip irrigation materials, water filters, and technique has supported to the farmers and either drought or excess water is and will continue to be an issue in the long run.

Challenges to sustainability

Challenges to sustainability were found in men having to migrate for labour and no longer being able to support their households in the home garden. Also, not all beneficiaries had continuous access to land for their home garden.

Access to the market, in particular getting a good price, can be difficult for smallholder farmers who are not experienced in the markets, selling small quantities and are not certified. They circumvent this by selling to neighbours, but this concerns only a small part of the produce that they did not consume.

Availability of seed can also become an issue but not in terms of availability, as there is sufficient seed in the market in practical quantities for small scale farmers. MUSEFO did distribute some seeds but already during implementation, the beneficiaries had started buying or multiplying the seeds they needed. It was also mentioned by government partners that the price of seed is increasing and starts to present a more pressing problem to smallholder farmers.

2.2.9 Learning processes during the implementation of home gardens (RQ9)

Learning on the topic on nutrition sensitive agriculture (which is mainly generated from the experience of home gardening activities) is under development process. It is integrated into the CAO Farmbook App as Web-Based Training platform and training modules on Food Security and Nutrition and Nutrition-sensitive agriculture have been developed with partners. This also include supporting the MoH in developing nutrition counselling apps, based on MUSEFO, for health service providers, VHSGs, and families.

The MUSEFO team collaborate within GIZ and other organisations in Cambodia to share learning and obtain information on food and nutrition patterns. The MUSEFO NGO partner staff indicated that they had learned a lot from the project; as an unintended result of MUSEFO, they had been easily able to find a new job, helped by the knowledge and experience from the project. As for the beneficiaries, they do share the learnings in a larger group.

46 GIZ, March 2022/2023. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). 3rd Follow-up Survey

2.3 Summary of Key Findings

This chapter provides an overview of the key findings of the study, identifying key challenges and barriers as well as enablers or potential solutions for the successful introduction and implementation of the home garden approach as one pillar of the MUSEFO project in Cambodia.

Key factor for home garden activities	Challenges / Barriers	Solutions / Enablers
Adverse effects of climate change on agricultural production and availability of nutritious food	Droughts from 2016-2020, the lack of shade and water resulted in dropouts. FGDs brought out that maintaining a home garden is only suitable for those living at a relatively short distance from a well or other water source.	Promotion of agricultural crops, practices or farming systems which are more resilient against climate change related stress factors (e.g. droughts, floods). E.g., The introduction of MPF in drought-prone communities increased the survival rate of leafy greens from 38% to 74%.
Household resilience		Combining crops and animals for enhanced resilience against external shocks (climate, weather, markets). Keeping animals for their products and eating animal foods is widely accepted in Cambodia, and it is a source for essential vitamins and minerals. MUSEFO has successfully included animal-source food into the home garden approach in Cambodia.
Unexpected disruption of supply chains	In 2020, COVID-19 lockdowns disrupted supply chains and in-person training. Limited smartphone access among older caregivers and poor network coverage in remote villages hinder effective digital outreach.	Introduce and promote appropriate ICT tools for coordination and knowledge transfer E.g., Training via Telegram increased timely seed uptake to 92% and reduced advisory costs by 35%.
Contribution of home gardens to household income and enhanced resilience	Limited market access for beneficiaries seeking to sell surplus produce from their home gardens. As a result, they often had to accept lower prices, either on the open market or when selling to neighbours, leading to missed income opportunities	
Women empowerment	Men rarely participated in garden management or engaged in nutrition education sessions. Increased women's workload, in particular during transplanting and harvest seasons, is a barrier for women to establish and continue home garden management.	While gender roles did not change significantly – women mostly decide on what is consumed in terms of food groups while men decide on what is produced – home gardens contributed to women's empowerment as earnings from surplus sales help women gain decision power in household economics. Especially in very poor households, women say that the produce from home garden sales has helped to send their children to school.
Food environments	The availability to unhealthy, but cheaper food items hinders the promotion and consumption of nutritious diet. Persons, especially women in the project, who lacked time to prepare healthy meals sometimes resorted to buying from street vendors, whose food, however, was often neither healthy nor hygienically prepared.	

Key factor for home garden activities	Challenges / Barriers	Solutions / Enablers
Food habits	Although some new foods introduced by MUSEFO (such as moringa, dragon fruit, chaya, and okra) were more nutritious than those commonly consumed, there were difficulties to introduce these at the beginning.	These food items were gradually introduced in the training and recipes were shared. By now most target farmers grow and use these food products.
Persistence of food taboos in Cambodia	One food taboo applies to the belief that women who have just delivered a baby should avoid meat, egg plants and bamboo. Some mothers used to avoid foods they believe could have negative effects, such as certain fish, mushrooms, bananas.	In the nutrition awareness raising of MUSEFO, such topics were included. As a result, a few mothers increased their consumption of vegetables, fruits, and plain foods while avoiding processed or fermented items.
Time constraints for full engagement and commitment in project activities.	Especially when parts of families (mostly men) are migrating for work and/or women working outside the house, time constraints can become an issue and home gardens might not develop their full potential for FNS.	
Differing priorities of (socio-economic) sub-groups among beneficiaries	Findings from FUS have shown that results (measured by indicator IDDS) differ for food secure and food insecure households and for poor and vulnerable households. E.g., for IDPoor 1 or 2 participants, it (home gardening) helped create a basis of healthy food, starting with an improved quantity, whereas for somewhat better off people it contributes more to the quality and diversity of the diet.	
Negative effects of animal husbandry	In food secure households, according to the FUS findings, animal diversity contributed negatively with children's MAD indicator. The survey concluded that perhaps food was given first to the animals around the house, causing negative effects on the children's dietary diversity (MDD-C) and/or women being busier with taking care of animals might cause negative effects on the children's meal frequency (MMF-C).	

Conclusions and Recommendations

3



3.1 Conclusions

3.1.1 Context–Mechanism–Outcome statement 1

Context	Mechanism	Outcome
In the provinces of Kampong Thom and Kampot, working with smallholder farmers with a focus on women of reproductive age,	building the capacity of health workers and agricultural staffs (both government and implementing agency partners) in combination with training of beneficiaries on how to produce diversified food in home gardens	contributed to a better Individual Dietary Diversity Score for women and Minimum Acceptable Diet (MAD) for children (aged 6–23 months), in food secure and food insecure households.

A multisectoral approach, addressing several sectors, including building the capacity of health centre staff and agricultural extension workers, engagement with private sector, nutrition governance combined with training beneficiaries on how to produce diversified food in home gardens, contributed to an increased proportion of women and children consuming diversified diets and having higher nutrition indicator scores (IDDS and MAD), the conclusion is positive. In conclusion, all nutrition indicators improved for children and women when households produced more of the promoted food crops.

Home gardens, likely due to their central role in the project, have led to an increased availability of a wider range of diverse food ingredients for meals, including vegetables, fruits, and animal-based products. Furthermore, pumpkin, sweet potatoes, moringa, dragon fruit, chaya, okra and many more have been included as new vegetables and fruits, which helped to improve the micronutrient status among women and children. Animals and their products were promoted to address the need for protein. Most of the food was consumed by the targeted households, resulting in a higher dietary diversity score. Higher dietary diversity scores were confirmed for both women and their children through the FUS surveys. This diverse consumption of foods likely also contributed to a better nutritional status, especially since it combined nutrition and hygiene education.

The supported home gardens flourished and although there were minor instances of drought and flooding, these did not significantly affect the harvest to the extent that beneficiaries would become discouraged.

Some beneficiaries commented critically on the labour and time investment required. Another constraint was the migration of men in search of income, leaving their wives as the sole caregivers for the home garden. Some of the factors that enhanced the use of home gardens were economic benefits, growing interest in food safety and the promotion of techniques to combat food waste.

A small part of the produce, if it was beyond the needs of the households, was sold, mostly to neighbours, but often at low prices since the targeted women did not have access to the market. Nonetheless, even if the income was lower than through selling in the market, it did support the local food supply.

3.1.2 Context-Mechanism-Outcome statement 2

Context	Mechanism	Outcome
In the provinces of Kampong Thom and Kampot, working with smallholder farmers with a focus on women of reproductive age,	combining capacity building for government staff (health and agriculture) and the target population with support for nutrition governance, policy and coordination,	enhanced the likelihood of the results being sustainable.

As for the second outcome statement, which indicates that the MUSEFO approach contributes to the sustainability of the gains made under the first outcome, the findings were in general positive. Several avenues contribute to this enhanced sustainability. The first being the strengthened resilience of the household through access to a more diversified food supply and additional income. Findings from FUS also indicated that MUSEFO beneficiaries were more resilient in the face of crises, with a steady food supply on the table, regardless of the situation, plus some extra money if things went well. Interviewees reported that people continued to tend to their home gardens even after the support they received from MUSEFO had ended. The capacity of health

and agricultural government staff is expected to remain useful, and so is the knowledge gathered by MUSEFO beneficiaries. The cascade training approach created the potential for further dissemination of knowledge. Furthermore, MUSEFO paid appropriate attention to good agricultural practices, including compost making and organic farming, which contributes to environmental sustainability. Moringa and other neglected foods were introduced, not only for its nutrition value, but also for its longevity, which means that farmers do not have to buy seeds on a frequent basis. The combination of vegetable crops, moringa, fruit trees and animals decreased the influence that beneficiaries face from weather conditions and fluctuations in money availability.

3.1.3 Context-Mechanism-Outcome statement 3

Context	Mechanism	Outcome
In the provinces of Kampong Thom and Kampot, working with smallholder farmers with a focus on women of reproductive age,	providing women of reproductive age with a combination of nutrition and basic hygiene awareness and support to establish and implement a home garden with a variety of food items, combined with among others saving for change, business development, and revolving funds,	contributes to their empowerment.

Regarding the contribution to women's empowerment, findings are mixed. Though all interviewees said that women were more empowered through their participation in the project, notably in savings groups and business development initiatives, probing brought out that the changes in gender roles and decision-making were minimal. Whilst women were engaged in the gardens (and men also to a certain extent), men were rarely engaged in nutrition education sessions. Still, some positive changes were noted in the FUS in terms of men being engaged in the home garden work.

This potentially paved the way for continuing efforts in linking activities aiming at improved food and nutrition security with activities targeting women empowerment and contributed to enhancing gender equality.

3.2 Recommendations

Recommendation 1:

Combine support to home gardens with nutrition education in food and nutrition security-related programmes

Given the success of MUSEFO, it is suggested that support to home gardens be included in new interventions supported by GIZ or other actors in Cambodia. Home gardens are linked to the consumption of a more diverse diet and are likely to improve the overall nutrition status of household members. The number of people involved in home gardening can be further expanded. Home gardening needs to be accompanied by nutrition education or counselling, to boost consumption of produce from the garden.

Additionally, methods to save water need to be taught and promoted.

Recommendation 2:

Include moringa and other neglected food groups in home gardens and promote the combination with vitamin A rich foods.

Cambodia is rich in foods often neglected but available. Future programmes should include and promote those in home gardens. The promotion of moringa has provided the beneficiaries with a drought-resistant, long-lasting food source that provides iron, and does not have to be reseeded or replanted each season. The taste is appreciated and it has appeared easy to integrate into the diet. It is therefore recommended to further promote the use of moringa and other neglected food groups in food and nutrition programmes that include home gardens, provided conditions allow. Additionally, the consumption of vitamin A-rich food products and nuts should be promoted.

Recommendation 3:

Further support to improving the practice of combining vegetables and fruit with animals as part of home gardens and the use of animal protein in the diet

MUSEFO has successfully included animal-source food into the home garden approach in Cambodia. Keeping animals for their products and eating animal foods is widely accepted in Cambodia, and it is a source for essential vitamins and minerals. Furthermore, combining crops and animals enhances the potential for resilience in times of changing weather and climate. It is therefore recommended to continue and expand this approach in potential new projects in Cambodia, and where possible, diversify the types of animals that are to be kept. Notably, this could include keeping buffaloes and small livestock. As was started under the Buffalo initiative, more beneficiaries should be linked to support services for animal health and breeding and be trained on how to keep their animals healthy and how to produce animal feed. In the training, the importance of not using the households' food for consumption for the animals should also be emphasised.

Animal products such as buffalo milk are also suitable for processing and sales (i.e. yoghurt, cheese). The support of women's groups, especially in the case of high value animals, could be addressed in future projects. Part of an intervention should then be support to and training on food processing and linkage to markets, with engagement of the private sector and relevant government parties. Though this approach could be suitable in other countries, local environments must first be analysed to evaluate its practicality and cost-effectiveness for beneficiaries.

At the same time, the FUS brought out that animal diversity was negatively correlated with MAD, but the causal relation was not unravelled. It is therefore recommended, that future projects further assess this correlation and the mechanisms behind it, to prevent this negative effect from happening.

Recommendation 4:
Find ways to improve women's empowerment under the home garden approach

Future projects need to consider improving women's empowerment more strongly. Without in-depth studies into specific activities done by women and men, several activities can already be suggested, such as holding training sessions for men on nutrition in the evenings, and engaging more women in care groups for food processing, linking them to local markets. Linking women with markets so that they can sell their produce

at higher processing level and build networks is another suggestion. At the same time, the women need to be provided with financial literacy training.

The expansion of knowledge transfer and education activities should be designed to align with the participants' daily routines, practices, and living environments, as well as be mindful of time constraints. One possible approach is to provide childcare during training sessions – whether for external trainings or those conducted at the household level.



**Recommendation 5:
Find and exploit opportunities for cross-learning**

It is recommended in future interventions to organise cross-learning events on a more frequent basis, to share the successes and challenges of the various home garden modalities that are used in different contexts. Regular meetings can be organised in the form of online seminars, to reduce costs, provided partners have digital skills and sufficient quality access to internet. To link to the situation on the ground, a voice must be given to project participants, which was already done to a certain extent in MUSEFO. Care group members for instance or other beneficiaries can be invited to the events to demonstrate what they have accomplished under MUSEFO and how this has affected the life of their household and communities, and which challenges they still face.

**Recommendation 6:
Consider ways to further enhance the sustainability of interventions in Cambodia in the area of food security and nutrition**

In interventions that will be designed and developed in the area of food security and nutrition, be it supported by GIZ or others, there is scope to introduce a focus on sustainability. The first way that comes to mind is moving away from project-based implementation to government-led implementation, by anchoring the new intervention into existing governance structures and priorities. Ideally this will be done through a multi-sectoral approach, where government partners working in various sectors, including for instance food security, health, social protection, education and environment and climate, will be engaged.

New projects need to focus more strongly on enhancing resilience against external risks and shocks such as climate change (including water shortage and droughts and floods) and supply chain disruptions. A concrete way to tackle the latter would be to support beneficiaries to conduct seed selection and multiplication.

Involvement of other stakeholders, such as street vendors and schools will help address challenges to food habits for a longer time and finally, support to food banks and further decrease of food wastage at the level of consumption as well as production will enhance the benefit of increased food production.

Annexes



Annex 1: Glossary of home gardens as defined by GLZ CU

Home Garden: Home gardening refers to the cultivation of a small portion of land that may be located around the household or within walking distance of the family home.

Kitchen Garden: A kitchen garden is a garden where food crops are grown, mainly vegetables or fruit that cannot be grown in an orchard.

Keyhole Garden: Keyhole gardens, originally designed for use by the chronically ill, are raised (waist height) garden beds surrounded by rocks and stones, with a walkway to allow a person to sit or squat while working in the garden around them.

Community Garden: A community garden is a piece of land cultivated by a group of people rather than a single family or individual. They provide a shared space where people of all ages and backgrounds can come together to grow food, share knowledge, and build relationships.

Multi-Purpose Farm (MPF): An MPF is an association of small livestock breeding, live productive fence, fruit and vegetable production, fishpond, using Key Farmer (KFs) as extension workers (farmers-to-farmers approach) providing community advices (Minimum Farm Packages – MFP).

Nutrition Clubs: *No general definition available, to define with the concerned CPs.*

Nutrition Garden: *No general definition available, to define with the concerned CPs.*

School Garden: A school garden is a garden where children learn to grow plants and vegetables within the school environment. It is a factor in school attendance and can be a way in for participatory and inclusive community development. [Annex 3: Research Questions](#)

1. Contribution of home garden interventions to the diversity of production at the household level:

How do home gardens contribute to the diversity of crops and food groups produced at the household level, and how does this vary by the household's food security status?

- Have you used different home garden models over the years? If so, can you describe them?
- How did the (different) home garden model(s) contribute to the diversity of crops and food groups produced at the household level?
- Was the contribution to crop and food group diversity incorporated into the Theory of Change during the design of the home garden interventions? If so, how?
- Were the garden models designed with specific objectives related to production diversity from the beginning? If so, what were these objectives?
- During implementation, did you observe significant differences in the diversity of crops produced by households benefiting from home gardens, depending on their food security status? What are the reasons for these differences?
- Are the outcomes in terms of production diversity aligned with the expectations outlined in the initial Theory of Change? What adaptations have been made to the model to meet specific needs of beneficiaries?

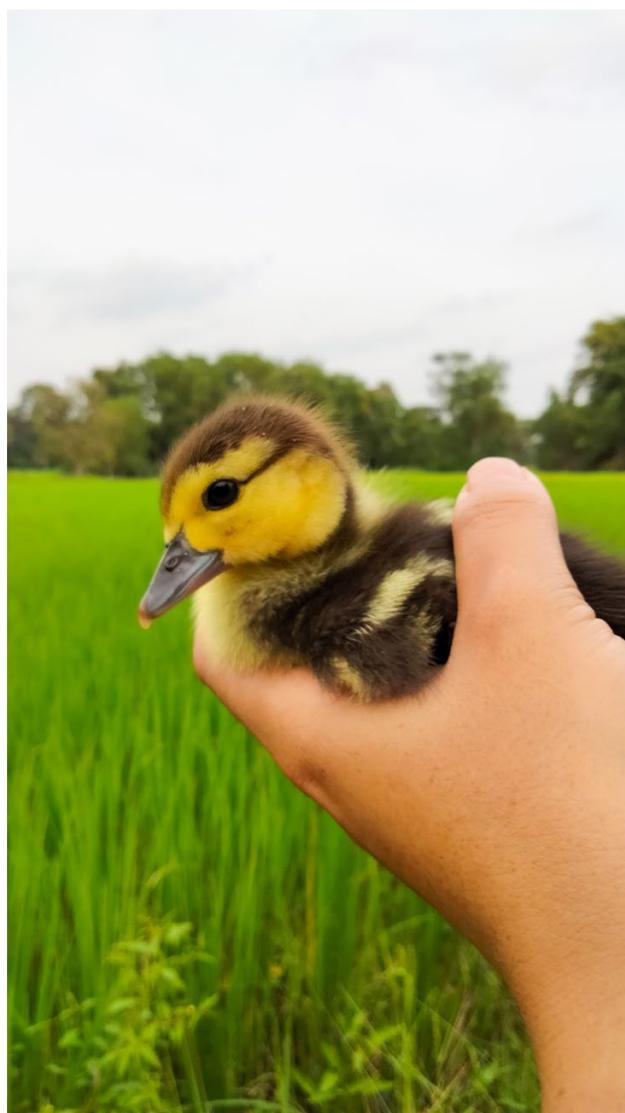
2. Improving the Nutritional Diversity of Women and Children:

To what extent have home gardens contributed to improving the dietary diversity of women and children, and how does this vary by the household's food security status?

- To what extent did different model of home gardens improve the dietary diversity of women and children?
- How was the mechanism through which home garden interventions specifically contribute to improving the dietary diversity of women and children in the targeted households?
- Have you observed any notable differences in the dietary diversity of women and children in households with different levels of food security? If so, how did the food security status of households influence improvements in dietary diversity for women and children through home garden interventions?
- Has the program monitored changes in dietary diversity for women and children as a result of home garden interventions? If so, how and how often? What evidence can you provide to show these results?
- Which effect(s) has promoting specific crops (based on their food group classification or not) on the household's diet?
- What specific crops were promoted in the home garden interventions, and how were these choices made regarding their food group classification (e.g., vegetables (moringa?), fruits, proteins)?
- Have these promoted crops contributed to improving dietary diversity and the nutritional quality of the household diet? If so, how?
- Did the effects of promoting specific crops on the household diet vary depending on food security status? If so, how?
- Have the promoted crops had a more significant impact on food-insecure households compared to those with better food security?

Do home garden interventions impact local food supply and contribute to broader community nutrition outcomes, and if yes how?

- In your experience, have home gardens increased the availability of nutritious food in local markets or among neighbouring households?
- Do home garden interventions influence broader community nutrition outcomes, particularly for women and children? If so, how?
- Can you provide examples where home garden produce has directly supported community nutrition, either through increased availability of nutrient-rich food or distribution?



3. Utilization of the Grown Food:

What portion of home garden produce is consumed within the household versus sold or bartered, and how does this vary by the household's food security status?

- What portion of home garden produce do you think is typically consumed within the household versus sold or bartered? How does this differ based on household food security status?
- What factors (e.g., crop type, household size) influence the balance between consumption and sale/barter of home garden produce?
- Has the program monitored or tracked the utilization of food grown in home gardens, particularly its impact on household consumption and income?

How does the consumption of home-grown produce influence the diet quality of household members (mothers and young children) and how does this vary by the household's food security status?

- How does the consumption of home-grown produce influence the diet quality of mothers and young children in participating households?
- Are there specific crops or food groups that have shown a greater impact on improving nutrition for these groups?
- How does the household's food security status affect the degree to which home-grown produce improves the diet quality of mothers and children?

4. Context-adjusted effectiveness of different types of home gardens:

Which types of home garden models did you implement (following GIZ's typology and additional criteria such as Community Garden versus individual or mixt approach; Promotion of organic practises versus conventional agriculture; Level of integration in more complex and complementary approaches: post-harvest management, nutrition awareness, financial literacy, saving/ loans group activity, linking with other farming activities, etc.) were implemented? Which are most effective in different socio-economic and environmental contexts?

- Based on your experience, which home garden models have proven most effective in your country's socio-economic and environmental contexts?
- What specific factors (e.g., household size, land availability, cultural preferences) have influenced the success of these models?
- Which complementary approaches (e.g., nutrition awareness, post-harvest management, financial literacy, savings and loans groups, gender equity awareness) have been integrated? Has this had a significant impact on the effectiveness of home gardens?

Which local conditions (climate, cultural practices [e.g., gender, etc.] and preferences [e.g., demand for healthy products], land availability, pest pressure, food security) enhance or hinder the success of various home garden interventions?

- Which local conditions (e.g., climate, cultural practices, land availability, pest pressure) have most influenced the success of home garden interventions in your country?
- Have these local conditions influenced the design and implementation of home garden activities over time? If so, how?
- Do cultural practices, such as gender roles or community preferences for certain types of crops, affect the adoption and success of home garden interventions? If so, how?

5. Multiplying or inhibiting factors for nutrient-rich foods:

What are the key factors that enhance or hinder the production and consumption of nutrient-rich foods from home gardens?

- What are the key factors that have facilitated or hindered the successful production of nutrient-rich foods (such as vegetables, fruits, or legumes) in home gardens?
- What barriers have you encountered to the production and consumption of these nutrient-rich foods, and how have they been addressed?
- How has the program supported households in increasing the consumption of nutrient-rich foods produced in home gardens?

How do access to resources (e.g., labour force, seeds, water, land, financial services) and support structures (e.g., agricultural training, local markets) affect the availability of nutrient-dense crops in home gardens?

- How do access to key resources like labour, seeds, water, and land influence the ability of households to produce nutrient-dense crops in home gardens?
- What role have support structures, such as agricultural training and access to local markets, played in facilitating the production of nutrient-dense crops in home gardens?
- What challenges have households faced in accessing the necessary resources for growing nutrient-rich foods, and how have these been addressed?



6. Women's Empowerment:

In what ways do home garden interventions empower women in decision-making, resource management (including financial resources), and household nutrition?

- Have home garden interventions empowered women in terms of decision-making within the household, particularly regarding food production, consumption, and resource allocation? If so, how?
- Has women's involvement in home garden activities influenced household nutrition, particularly for women and children? If so, how?
- Has women's control over income from garden produce or their ability to invest in household nutrition changed as a result of these interventions? If so, how?

How does women's participation in home gardening activities influence their social and economic status within the household and community?

- Has women's participation in home gardening influenced their role in household financial decision-making or their economic independence?
- Can you provide examples where women's involvement in home gardening has led to greater recognition or influence within community-based organizations or local decision-making processes?

How do home garden interventions impact women's workload, and what are the potential effects on their ability to provide adequate care for themselves and their children?

- Has women's participation in home gardening affected their workload, particularly in terms of time and effort required for gardening activities? If so, how?
- How do women balance home gardening activities with their other household responsibilities, such as childcare, cooking, and domestic chores?
- How does women's involvement in home gardening affect their ability to provide adequate care for themselves and their children, especially in terms of nutrition, health, and well-being?
- What were the strategies implemented by the project to mitigate the risks associated with an increased workload of women involved in home garden activities?

7. Resilience of households:

How and to what extent do home gardens contribute to the resilience of households in terms of food and nutrition security, especially during times of crisis (ex. market disruption) or economic hardship?

- How have home gardens contributed to the resilience of households, particularly in maintaining food and nutrition security during crises, such as market disruptions or economic hardship? (e.g. C-19)
- How does the contribution of home gardens to resilience vary across different socio-economic groups or food security statuses?

What factors determine the resilience-enhancing effects of home gardens, and how do these vary across different contexts and household food security status?

- What factors determine the resilience-enhancing effects of home gardens, such as crop diversity, access to resources, or training programs?
- How does the food security status of households affect the extent to which home gardens enhance resilience?

To what extent can the different HG modalities withstand climate-related disasters (floods, drought, etc.)?

- To what extent have the different types of home garden modalities been able to withstand climate-related disasters such as floods, droughts, or extreme weather conditions? Has this changed over the years? If so, how?
- What adaptation strategies or practices have been implemented to help home gardens cope with climate-related disasters?

8. Home-garden sustainability:

What factors contribute to the long-term sustainability of home garden interventions, particularly in maintaining a diversified production and household engagement over time?

- What factors contribute to the long-term sustainability of home garden interventions, particularly in maintaining diversified production and household engagement over time?
- How do you ensure that households remain engaged and motivated to continue home gardening over the long term?
- What challenges have you encountered in sustaining home garden activities, and how have these been addressed?

How do the different home garden modalities ensure continued access to resources (e.g., seeds, water, etc.) and knowledge transfer to support sustainable practices across different contexts?

- How do home garden modalities ensure continued access to essential resources (e.g., seeds, water) and the transfer of knowledge for sustainable practices across different contexts?
- What role do local farmers, community leaders, or extension services play in ensuring the continued use of sustainable practices?

9. Learning processes during implementation:

What learning mechanisms related to HGs' implementation and results have been used in the CPs, between CPs and at programme level?

- What learning mechanisms have been used within the Country Package (CP) to capture insights about home garden interventions and share them with other CPs? Is this documented? Do you have any evidence to share?
- Have different CPs exchanged lessons learned and best practices regarding home gardens? If so, how and how often?

To what extent have these learning mechanisms made it possible to identify good practices adapted to local contexts?

- To what extent have learning mechanisms helped identify good practices adapted to local contexts in home garden interventions?
- How have good practices been shared or scaled within the Country Package or across other regions?

Annex 2: List of documents reviewed

GIZ, 20 July 2017. Review des Länderpakets Kambodscha des Globalvorhabens Ernährungssicherung und Resilienzstärkung. Entwurf.

GIZ, March 2020. The Multi-Sectoral Food and Nutrition Security Cambodia (MUSEFO). Focus Group Discussions with factory workers. Qualitative Report. 2nd Follow-up Survey

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GIZ, November 2022. Globalvorhaben Ernährungssicherung und Resilienzstärkung.
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Fortschrittsbericht für das Länderpaket Kambodscha. 3.2021-2.2022

Globalvorhaben Ernährungssicherung und Resilienzstärkung.
Fortschrittsbericht für das Länderpaket Kambodscha. 3.2022-2.2023

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Fortschrittsbericht für das Länderpaket Kambodscha. 3.2023-2.2024

Globalvorhaben Ernährungssicherung und Resilienzstärkung.
Wirkungsmatrix des Moduls Länderpaket Kambodscha

HKI, Home-garden and Nutrition learning report 2019-2023

Fry, Hillary and Sigh, Sanne, 11 April 2024.
Cambodia: Impacts of the nutrition transition on urban and rural mothers and children

RACHA, Care-groups plus implémentations briefs 2022-2024

Angkor Research, Custom and Beliefs study 2023

Angkor Research, Barrier and Enablers study 2024

Angkor Research, Nutrition Transition and Food Environment Study 2022

World Food Program, Filled in Nutrition Gap – Cambodia, 2023

Project training material

Training Manual on Nutrition-Sensitive Agriculture

Farmer Homestead in Beginning Stage

Model of a Semi-Option Multi-Purpose Farm

Model of a Full-Option Multi-Purpose Farm

Diversified Food Consumption and Basic Hygiene on a Multi-Purpose Farm

Crop Calendar MUSEFO

Seed Calendar MUSEFO

Annex 3: Overview of CMOs

#	Context	Mechanism	Outcome	Evidence
01	Provinces of Kampong Thom and Kampot, working with small-holder farmers with a focus on women of reproductive age.	Combining support to home gardens with capacity building of health staff and promoting growth monitoring to follow results.	Individual dietary diversity score of 15k people in 2 regions improved The proportion of the 3,000 young children (aged 6-23 months) receiving an adequate meal frequency and diversity according to the Minimum Acceptable Diet (MAD) has increased by 10%.	KIIs FUS I, II and III Output assessment
02		Support to nutrition governance, policy and coordination additional to home gardens, capacity building and awareness raising.	Results in terms of dietary diversity of women and adequate meal frequency of children is sustainable	KIIs Qualitative FGDs
03		Engaging women of reproductive age in home gardens combined with awareness raising on health and nutrition for women contributes to their empowerment.	The women that participate in a combination of home garden and nutrition awareness feel more empowered	KIIs FUS I, II and III Qualitative FGDs



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