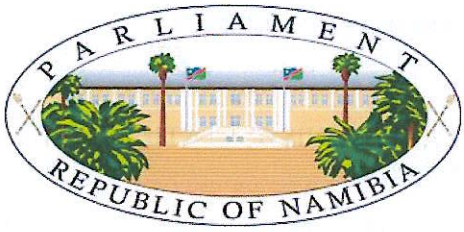

National Council

REPORT OF THE NATIONAL COUNCIL STANDING COMMITTEE ON AGRICULTURE, ENVIRONMENT AND NATURAL RESOURCES ON THE INVESTIGATION INTO THE PROMOTION OF FOOD SECURITY IN NAMIBIA DURING 2024 AND 2025

November 2025

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ABBREVIATIONS AND ACRONYMS

AALS	Affirmative Action Loan Scheme
AGRIBUSDEV	Agricultural Business Development Agency
AMTA	Agro-Marketing and Trade Agency
ARC	Agriculture Research Center
ENTAG	Engineering Task Group
ECARU	Egyptian Company for Solid Waste Recycling
FY	Financial Year
GAP	Good Agricultural Practices
GERD	Grand Ethiopian Renaissance Dam
GSIP	Green Scheme Irrigation Project
Ha	Hectare
WUAs	Water User Association
GDP	Gross Domestic Product
PACWA	Pan African Centre for Water and Climate Adaptation
AWARe	Action on Water Adaptation or Resilience
EICA	International Centre for Agriculture
MAFWLR	Ministry of Agriculture, Water, Fisheries and Land Reform
MOU	Memorandum of Understanding
MSF	Medium Scale Farmer
NAB	Namibia Agronomic Board
NAMSIP	Namibia Agriculture Mechanizations and Seed Improvement Programme
NORED	Northern Regional Electricity Distributor
NWRC	National Water Research Center
ORIP	Orange River Irrigation Project
SADC	Southern African Development Community
SSF	Small Scale Farmer
VAT	Value Added Tax

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ACKNOWLEDGMENTS

The Standing Committee on Agriculture, Environment and Natural Resources of the National Council, Parliament of the Republic of Namibia hereby wishes to express its profound appreciation to the Senate of the Arab Republic of Egypt for accepting the Committee's request to undertake a study visit on Food Security to Egypt.

The Committee is grateful for the opportunity granted to engage with its counterpart Committee, the Standing Committee on Agriculture and Irrigation, under the leadership of Chairperson, Honourable Abdel Salam El-Gabaly. The Committee further extends heartfelt thanks for the engagements with Minister of Agriculture and Land Reclamation, Honourable Alaa Farouk and the Minister of Water Resources and Irrigation, Hon Prof. Dr. Hani Sewilam. The exchange of knowledge and experiences has greatly contributed to our understanding of Egypt's approaches and best practices in achieving food security.

Gratitude is also extended to all government officials, technical experts, institutions and the farmers who generously shared their time, experiences, and knowledge with the Committee. The insights gained from the discussions and site visits have provided valuable lessons and best practices that will inform ongoing efforts to strengthen food security initiatives in Namibia.

The delegation further acknowledges the seamless logistical arrangements and coordination provided by members of the Secretariat of the Senate. We are thankful for the hospitality and assistance extended during our study visit, it contributed immensely to the success of this visit.

Finally, a special thanks is extended to the Namibian Ambassador to the Arab Republic of Egypt, H.E Vilho V. Nghifindaka and the entire staff of the Namibian mission in Cairo for facilitating the visit and the warm reception and assistance they rendered during this period.

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1. INTRODUCTION

In terms of Rule 151 (1), (2) and (6), of the National Council Standing Rules and Orders (as amended), the Standing Committee on Agriculture, Environment and Natural Resources is mandated to deal with questions falling within the ambit of Offices, Ministries, Agencies and Public Enterprises dealing with agriculture, land, water, environment, forestry, tourism, mines, energy, and marine resources, promote adequate food security and promote a fair distribution of farming land and productive utilization thereof.

Agriculture supports 70% of the Namibian population both directly and indirectly and contributes on average 5.8% to the Gross Domestic Product. (GDP). Agriculture is also one of the sectors that recorded real growth during the COVID-19 pandemic period. Since independence in 1990, Namibia's food value chains have been linked to South Africa. Farm Managers the Committee engaged with indicated that Namibia's continued dependence on maize imports from South Africa poses a serious food security risk. During the Covid 19 border closure, the country had only seven days' worth of maize reserves, highlighting the vulnerability of its supply chain. As such, food produced in Namibia is taken to South Africa for packaging and comes back in a South African label. Moreover, there is an over-supply and over-dependence of South African produce in the Namibian market, a situation that has undermined the Namibian local produce and that threatens Namibia's food security.

To address this, government adopted strategies to invest both in livestock and crop production. This extended to enhancing agriculture value chains through seeking market access for both livestock, crop production and horticulture. As a result, the country has seen a surge in the number of abattoirs, Green Scheme Irrigation Projects (GSIPs), Strategic Food Reserves, Fresh Produce Hubs and the Namibia Agriculture Mechanizations and Seed Improvement Programme (NAMSIP) interventions, among others. With respect to policy, Namibia has the Namibian Agriculture Policy, the Green Scheme Policy, the Harambee Comprehensively Coordinated Integrated Agricultural Development Programme (HACCIADEP) and the Food and Nutrition Security Policy and Strategy which has seen government continue to achieve food and nutrition security related targets.

Despite the considerable investments made over the years, the overall benefits and impact of the Green Scheme Projects in Namibia remain a subject of significant debate. Diverse reasons have been put forward to challenges faced by GSIPs, chief amongst them, a reliance on rain-based agricultural practices, procurement processes, lack of technical experts, extended drought and climate change. With respect to drought, Namibia, like many other countries within the Southern African Development Community (SADC) continues to face prolonged and unprecedented droughts. These conditions have placed enormous pressure on rural livelihoods, agricultural systems and national food reserves, intensifying the country's vulnerability to hunger and malnutrition.

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Since the year 2023, drought has increased globally due to the compounding effects of climate change. Over nearly half of the population in the country are experiencing acute food insecurity and with seven (7) out of the fourteen (14) regions classified under emergency conditions. Crop failures, livestock deaths and water shortages have disrupted traditional farming practices and strained national food reserves. In response, former President Nangolo Mbumba declared a national state of emergency on May 22, 2024 and launched a N$1.8 billion nationwide drought relief program, providing food assistance, livestock support and water infrastructure across all fourteen (14) regions. This included innovative measures such as distribution of game meat from sustainably culled wildlife and rollout of a digital voucher system to improve food delivery efficiency.

Regionally, the Southern African Development Community (SADC) leaders responded decisively to the escalating climate change crisis by declaring a regional emergency and initiating a US$5.5 billion humanitarian appeal. These efforts were aimed at mitigating the widespread effects drought and floods that have severely disrupted agricultural production and access to food across the region, to assist more than 30 million people currently facing food insecurity, failed harvests and surging food prices throughout Southern Africa.

Recognizing the urgency of the food security crisis, the Standing Committee on Agriculture, Environment and Natural Resources adopted the promotion of food security as a strategic priority for the 2024/2025 to 2025/2026 financial year. As part of this initiative, the Standing Committee undertook an oversight visit to select GSIPs from the 18th to the 22nd of August 2025 to follow up on oversights previously undertaken. Other efforts include a study visit to the Senate of the Republic of Kenya in 2024, which could not be concluded due to the security situation that unfolded at the time of the visit. In 2025, another attempt of a study visit to the Arab Republic of Egypt was concluded successfully.

Egypt has emerged as a regional leader in North Africa in agricultural development and food security policy. With over 97% of fresh water coming from the Nile River, its achievement in arid land agriculture, advanced irrigation systems and sustainable farming practices offer valuable lessons for Namibia as it seeks to strengthen its agricultural resilience. The main objective of the Standing Committee's study visit was to engage with Egyptian experts and institutions to learn from their successful approaches to mitigate food insecurity. The study visit served most effective and thus strengthened the recommendations contained in this report.

This two-part report draws on findings from the Standing Committee's oversight visit to GSIPs in the Kavango East and Kavango West regions and the Zambezi Region. It further contains information obtained from the study visit to the Senate of the Arab Republic of Egypt. Furthermore, the Committee also held briefing sessions with the Agro-Marketing and Trade Agency and the Ministry of Agriculture, Fisheries, Water, Land and Fisheries.

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2. BACKGROUND

The status and challenges of GSIPs have enjoyed much attention from Parliament, with investigations into the matter going back numerous years. In more recent years, the then Standing Committee on Urban and Rural Development, the predecessor to the Standing Committee on Agriculture, Environment and Natural Resources, conducted an oversight visit to Green Scheme Irrigation projects from 23 February to 06 March 2020. The purpose was to assess progress of the Green Scheme Irrigation Projects as well as to establish whether they were yielding the intended results in respect of food security in the country. In addition, the Ministry was called to brief the Committee on the progress made with regards to the implementation of the recommendations made by the Committee which visited Shadikongoro, Ndonga Linena, Sikondo, Musese and Mashare Green Scheme Irrigation Projects.

Then, from the 30th of August to the 20th of September 2022, the Committee on Agriculture, Environment and Natural Resources Committee conducted a follow-up oversight visit to assess the progress made at the green schemes in terms of food production since the visit of 2020. By the year 2022, there were eleven (11) government Green Scheme Irrigation Projects country wide. Of these, eight (8) were operated under the direct management of the now dissolved Agricultural Business Development Agency (Agribusdev), while three (3) were leased out to private entities. Due to financial challenges and poor management, most of the Green Schemes Irrigation Projects were not operational. However, Shadikongoro and Sikondo Green Scheme Projects did manage to produce some wheat during this period amidst the challenges.

The Standing Committee also held a briefing session with officials from the Ministry of Agriculture, Water and Land Reform ahead of the mission on 15 August 2022 on the operations and management of the Government owned green schemes and how they are contributing to the improvement of food security and nutrition in Namibia. At the briefing session, the Committee probed the Ministry on the implementation of recommendations from previous Committee reports. The Ministry informed the Committee that a 190 Kw solar plant has been installed at Kalimbeza National Rice Project at a tune of N$ 2.5 million in order to mitigate the high input costs. Other green schemes were also lined-up to receive solar plants for the 2023/24 FY. Other follow-ups on key recommendations the Committee interrogated the Ministry on was relaxing procurement requirements of agricultural inputs that are needed timeously and grain import restrictions.

In 2024, the Committee undertook a study visit on food security to the Senate of Kenya. However, the mission in Kenya was abandoned abruptly due to the security situation in that country following the June 18 Finance Bill protests at the National Assembly in the capital, Nairobi. As a result, the Committee had to return to Namibia prematurely before the conclusion of the study visit. The Committee then opted to redirect the study visit to the Senate of the Arab Republic of Egypt for the following financial year and this mission was undertaken in July of 2025.

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Finally, in August 2025, the Committee undertook the final oversight to follow-up on recommendations made to the Ministries and also to assess and verify information obtained by the Committee from briefings held with the line Ministry during the 2022 briefings. This was thus the third to be conducted over the past five years by the National Council. To conclude the undertaking, the Committee held engagements with the Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR) and AMTA. Thus, the Committee aims to find long lasting solutions to food insecurity in the country.

3. OBJECTIVES

The Committee's adoption of *Food Security* as a theme for the 2024/2025 Financial Year (FY) and subsequently, the 2025/2026 FY was born from enquiries and interventions undertaken by the Committee throughout the 6th Term of the National Council as well as in previous years. This includes oversight visits, stakeholder engagements and study visits, all in an effort to find meaningful solutions to the challenges within the green scheme and irrigation sector of Namibia and eventually, end hunger and malnutrition, improve the socio-economic conditions of citizens and make Namibia food secure.

The overarching aim of this broad undertaking was thus guided by the following Terms of Reference:

a) Assess the status of green schemes in terms of food production;
b) Explore best practices in terms of irrigation and food production;
c) Explore the most relevant research, policies, technologies and innovation that Namibia can employ to boost food production and make Namibia food sufficient;
d) Assess the access, marketing, quality and affordability of food;
e) Identify challenges in the green scheme and irrigation sector; and
f) Gauge to what extent the recommendations contained in the Reports of the Standing Committee on Agriculture, Environment and Natural Resources and forwarded to various OMAs were implemented.

4. COMPOSITION OF THE STANDING COMMITTEE

The activities were undertaken by the following Members of the Committee and Secretariat:

COMMITTEE MEMBERS

Hon. Melania Ndjago	Chairperson
Hon. Paulus Mbangu	Vice-Chairperson
Hon. Joram Kennedy	Member
Hon. Richard Gaoseb	Member
Hon. Nicodemus Motinga	Member

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Hon. Willem Labuschagne	Member
Hon. Kennedy Simasiku	Member

SECRETARIAT

Ms. Pamela Mate	Chief Parliamentary Clerk
Ms. Elizabeth Andreas	Parliamentary Clerk

5. METHODOLOGY

Information contained in this report is obtained from meetings the Standing Committee held during its oversight visit and the in loco inspection that followed. Other information contained herein is obtained from Committee engagements and site visits conducted during the study visit to Egypt. The report also contains information obtained during the briefing sessions with the Ministry of Agriculture, Fisheries, Water and Land Reform, AMTA as well as findings from a stakeholder engagement held in 2024 with selected Farmer's Unions. Finally, Reports of the Committee on Green Schemes and Irrigation Projects also served as information and reference documents.

6. SECTION 1: COMMITTEE OVERSIGHT VISIT, STATUS OF SMALL TO MEDIUM SCALE FARMERS AND STAKEHOLDER ENGAGEMENTS

6.1 COMMITTEE OVERSIGHT VISIT TO NAMIBIA'S GREEN SCHEMES

The Committee undertook it's third and final oversight visit to assess the status and viability of Namibia's Green Scheme Projects with a focus on their contributions to agricultural productivity, food security and climate resilience from 17th to 23rd August 2025 to five (5) Green Scheme Irrigation Projects located across Kavango East, Kavango West, and Zambezi Regions. Prior to engagement in the regions, the Committee paid courtesy calls to the Honourable Governors of the respective regions to brief them on the purpose of the oversight visit and gauge insights of the leadership of the region on the status of Green Schemes. To this end, the Committee met Honourable, Julius Hamunyera Hambyuka, Governor of the Kavango West Region, Honourable Verna Sinimbo, Governor of the Kavango East Region and Honourable Dorothy Mareka-Kabula, Governor of the Zambezi Region ahead of undertaking the mission in each region.

The Green Schemes visited included Uvhungu-Vhungu, Shadikongoro, Musese, Sikondo, and Katima-Liselo Green Scheme Irrigation Projects.

There are eleven (11) government Green Scheme Irrigation Projects country wide. Of these, eight (8) are government operated while three (3) are leased out to private entities. Following are illustrations depicting the management structure and production coverage of GSIPs in Namibia.

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GREEN SCHEME OVERVIEW BY MANAGEMENT STRUCTURE

Name of the Farm	Region	Total Fenced off Area (ha)	Irrigable Area (ha)			Management Structure
			Commercial	SSFs	MSFs	
Etunda GSIP	Omusati	1200	600	300	246	Direct Management
Sikondo GSIP	Kavango West	850	350	0	250	Direct Management
Uvhungu Vhungu GSIP	Kavango East	825	351,2	60	0	Direct Management
Ndonga Linena GSIP	Kavango East	1000	432	174	80	Direct Management
Shadikongoro GSIP	Kavango East	590	300	90	0	Direct Management
Kalimbeza GSIP	Zambezi	229	120	30	0	Direct Management
Hardap GSIP	Hardap	210	96	84	0	Direct Management
Orange River GSIP	//Kharas	600	129,5	70	0	Direct Management
Musese GSIP	Kavango West	1442,77	618	100	0	Lease Management
Mashare GSIP	Kavango East	854	365	0	100	Lease Agreement
Shitemo GSIP	Kavango East	1000	430	0	0	Lease Agreement

Table 1: The table above illustrates the management status quo of Green Scheme Projects in Namibia

PRODUCTION COVERAGE (2025)

Name of the Farm	Region	Total Fenced off Area (ha)	Irrigable Area (ha)			Current HA under Production (2025)	% Production Coverage
			Commercial	SSFs	MSFs		
Etunda GSIP	Omusati	1200	600	300	246	1146	95%
Sikondo GSIP	Kavango West	850	350	0	250	600	71%
Uvhungu Vhungu GSIP	Kavango East	825	351,2	60	0	411,2	50%
Ndonga Linena GSIP	Kavango East	1000	432	174	80	686	69%
Shadikongoro GSIP	Kavango East	590	300	90	0	390	66%
Kalimbeza GSIP	Zambezi	229	120	30	0	50	22%
Hardap GSIP	Hardap	210	96	84	0	84	40%
Orange River GSIP	//Kharas	600	129,5	70	0	70	12%
Musese GSIP	Kavango West	1442,77	618	100	0	718	50%
Mashare GSIP	Kavango East	854	365	0	100	365	43%
Shitemo GSIP	Kavango East	1000	430	0	0	30	3%

Table 2: The table above illustrates the production coverage of Green Scheme Projects in Namibia

6.1.1 Uvhungu-Vhungu Green Scheme Irrigation Project

Uvhungu-Vhungu GSIP is one of the seven government-supported irrigation projects in Namibia, located approximately 12Km East of Rundu. The scheme operates under the custodianship of the Ministry of

Agriculture, Fisheries, Water and Land Reform, following the dissolution of AgribusDev in 2022. The scheme has 312 hectares under centre pivot irrigation, 26 hectares under rack lines, and an additional 92 hectares allocated to small scale farmers of which 60 hectares are actively cultivated. The scheme also includes a greenhouse and shade net facilities totalling two (2) hectares which are currently non-operational due to repeated storm damage and electrical faults.

The Committee met Farm Manager, Mr. Floris Smith and his team, including the small scale farmers who produce on the land. The Farm Manager informed the Committee that the scheme employs a total of 22 permanent staff, 12 males, 10 females, supplemented by casual labour from nearby communities. Women are primarily responsible for fertilizer application, transplanting and weeding, while men handle heavier tasks such as trench digging for laying of pipes and fence clearing. Small scale farmers independently manage and pay their own labour. The scheme offers community services such as tractor and trailer hire for firewood and water transport, as well as ploughing services.

Crop production revealed a consisted growth, particularly in maize cultivation and the steadily expanding agricultural operation where maize cultivation has grown from 115 hectares yielding 509 tonnes in 2023 to 147 hectares producing 1191 tonnes in 2025. The scheme is projected to reach full capacity in 2026 with 312 hectares targeted to produce 2400 tonnes commercially and 400 tonnes from small scale farmers. Wheat production which was absent in 2022 began modestly in 2023 with 25 hectares yielding 91 tonnes. This expanded to 97 hectares and 489 tonnes in 2024 and further to 169 hectares with an estimated yield of 845 tonnes in 2025. Wheat is planted using proper agronomic practices including the application of lime and fertilizer which is broadcasted (spreading fertilizer evenly and incorporated into the soil). The fertilization schedule remains on track and the remaining stock is securely stored to ensure that the crops will thrive until its anticipated harvesting in October. All harvested wheat is intended for delivery to either Namib Mills or Bokomo in Windhoek.

The acquisition of a combined harvester in July 2025 improved harvesting efficiency and enabled full double cropping of maize and wheat across the cultivated area. However, the lack of onsite storage facilities remains a major challenge. Currently, all harvested maize are transported immediately to Katima Mulilo, resulting in high transportation costs and logistical challenges. The AMTA silos in Rundu are reserved exclusively for small scale farmers and only accept maize while wheat lacks local milling options, forcing schemes to rely on distant facilities. To address these issues, the Farm Manager proposed for the construction of three silos each with a 500 tonne capacity and integrated weighbridges. These would allow for flexible storage of both summer and winter crops and will facilitate a smoother coordination between commercial and small scale farming activities. Additionally, the Committee was informed that there is a pressing need to increase milling capacity in the region. Existing facilities in Otavi, Windhoek and Katima Mulilo are either too far or frequently at full

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capacity. For instance, the milling at Musese GSIP was unable to accept maize during the last harvest due to full silos. The need to establish a new milling plant to support local production was also underscored.

Financially, the farm operates its own banking account in Rundu where revenue from crop sales is deposited and used to cover operational expenses such as diesel, tyres and equipment maintenance. The Ministry of Agriculture, Fisheries, Water and Land Reform continues to provided support in the form of seeds, fertilizer, chemicals and staff salaries. Diesel costs are particularly high, with a 20 000 litre tank costing approximately N$400,000 and lasting for three to four cropping cycles per year depending on seasonal demands. Harvesting and field operations consume large volumes of fuel with some machinery using up to 500 litres per day, making cost efficiency and yield optimization essential for sustainability.

Despite its progress, the GSIP faces several challenges. These includes the absence of adequate grain storage facilities, frequent crop theft particularly maize by surrounding communities, outstanding VAT returns to NAMRA totalling N$250 000, delays in procurement process and high electricity and fuel costs. Solar installations have been recommended from previous engagements, but is yet to be implemented.

To enhance operations, the farm requires additional equipment's including a second combine harvester, three silos with integrated weighbridge, two tractors (80) KW and 100 KW), seven fertigation mixers for the center pivots and seven 500 litre plastic water tanks.

6.1.2 Shadikongoro Green Scheme Irrigation Project

The Shadikongoro GSIP, located in the eastern part of the Kavango East Region, is a government-owned agricultural scheme. The scheme operates under a structured development model that envisions farmers progressing from small scale to medium and eventually to large scale operators.

Farm Manager, Mr. Joseph Mutero informed the Committee that in 2022, the scheme successfully planted 90 hectares of wheat, yielding a total of 382 tonnes. This was followed by a productive maize season during which 198 hectares were planted commercially and an additional seven (7) hectares were cultivated by small scale farmers. These efforts resulted in harvests of 1 309 tonnes and 133 tonnes respectively. In 2024, commercial maize planting covered 162 hectares and small scale farmers contributed a harvest of 261 tonnes. However, wheat planting was not completed on time due to logistical constraints.

The scheme resumed with wheat cultivation in 2025 and planted 156 hectares of maize commercially, along with 28 hectares by small scale farmers. In addition to maize and wheat, the scheme also has sunflower cultivation, planted on 26 hectares in March 2025. At the time of the visit, the sunflower was ready for harvest and the process was expected to begin in the last week of August. The initial phase involves manually removing sunflower heads and placing them on the ground for drying. Once dried, the seeds are selected and processed using a combine harvester which is part of a facility specifically designed to assist local farmers

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with sunflower harvesting. However, challenges persist in this regard. One of the most pressing issues is the lack of a dedicated combine harvester, which has been a recurring problem since 2020. Unfortunately harvesting was delayed due to the absence of an in house combine harvester, forcing the scheme to rely on borrowed machinery from neighbouring schemes and correctional facilities as it can only be done after those other schemes have completed their own harvests. This lack causes delays in harvesting and land preparation for the next crop cycle, affecting productivity and efficiency. The situation is furthered worsened by the limited availability of tractors. For several years, the scheme operated with only two (2) tractors, which had to serve both commercial and small-scale farming needs. Although one (1) additional tractor and a crop sprayer were received last year, the demand still far exceeds the available resources. Moreover, the existing machinery is outdated, particularly the planters which compromise planting accuracy and operational reliability.

The expected yield from the sunflower crop is approximately 1.5 to 2 tonnes per hectare which is projected to produce around 8000 litres of cooking oil. However, the scheme currently lacks a defined market for the sunflower oil. Although there are plans to sell the oil to local farmers, the oil has previously faced low-quality issues and was pulled from the market. This was after retailers who stock drought relief food, found the oil to have a sour taste during the distribution of food in the drought relief program. This, according to the Farm Manager, is caused by the use of a cold pressing method for oil extraction which lacks the necessary refining capabilities to produce high quality cooking oil. The scheme manager thus appealed to the government for support in upgrading the facility by incorporating essential machinery such as a refinery and advanced filtration systems. Consultations to assess the facility and determine the necessary installations and associated costs were undertaken but the assessment is still ongoing and the final costing has not yet been completed. Prior to this, the sunflower oil facility had been abandoned for several years and efforts are now underway to revive and restore it to full operational capacity.

The scheme manager actively encourages local farmers within the community to grow sunflowers due to its sustainability and minimal irrigation requirements. Sunflowers requires watering only once a week and a single application of fertilizer during planting. Sunflower has demonstrated strong performance indicating its suitability for the local climate and resources conditions. The scheme plans to continue purchasing sunflower harvests from small scale farmers to strengthen community involvement and promote development.

Another challenge is the absence of cold storage facilities which affects the preservation of fresh produce and seeds. Small-scale farmers growing vegetables such as watermelons and butternuts have no proper storage, leading to spoilage either in the field or under inadequate warehouse conditions. Crop preparation and planting timelines also pose a concern, especially for summer crops. According to the scheme manager, preparation begins only after the harvesting process is completed, which usually occurs around December. However, this timeline is not ideal as the optimal planting season for summer crops, particularly maize, is between October and December. The best yields are achieved when planting starts in October. Delays in planting until late

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December can reduce yield potential especially if heavy rains occur while the maize is still young and vulnerable. Without adequate irrigation during this critical growth phase, the young maize plants are exposed to water stress which can severely affect their development and overall productivity.

The scheme operates with 10 center pivots, which are sufficient for the existing cultivated areas but not adequate for expansion. There is significant room for growth as 195 hectares of land remains uncultivated due to the absence of an irrigation system. The scheme manager has identified three (3) specific plots measuring 22, 26, and 36 hectares respectively for fruit tree cultivation. Of this, 10 hectares are earmarked for fruit tree cultivation including guavas, avocados, citrus, and mangoes. The larger sections will accommodate four new center pivots enabling the cultivation of an additional 183 hectares. Preliminary designs and pipe layouts for this expansion have already been completed by consultants and the scheme awaits decisions from the Ministry of Agriculture, Fisheries, Water and Land Reform regarding implementation timelines. To bring the entire green scheme under full production, four (4) additional center pivots are required. Based on previous installations, the cost of three (3) center pivots was approximately N$ 3.6 million, translating to about N$ 1.2 million per pivot. Therefore, the estimated cost for four (4) new pivots is around N$ 4.8 million. Once these pivots are installed, the scheme will be capable of operating at full capacity maximizing its agricultural output and land utilization.

With respect to the farm implements, fertilizers for the winter season were received on time in 2025, helping to maintain the planting schedule. However, the delivery of wheat seeds was delayed due to issues with the supplier. The seeds only arrived in June, which further impacted the planting timeline and potentially affected the yield. The late inputs have hampered the agricultural process. Electricity costs also remain a burden, with maximum demand charges still in effect despite previous proposals to eliminate them. Although Shadikongoro GSIP was identified alongside other green schemes as one of the initial sites for solar power installation, the implementation has been postponed to the 2026/2027 FY. Consultations have already been conducted and site inspections and preliminary assessments were concluded and the scheme awaits further action and implementation.

Despite these challenges, the scheme manager expressed optimism about expanding the scheme's capacity by developing the 195 hectares of currently unused land.

6.1.3 Musese Green Scheme Irrigation Project

The Musese Green Scheme Irrigation Project (GSIP), located in the Kavango West Region, it is one of Namibia's oldest and most strategically significant GSIP. The scheme was established in 1977 and was developed under the Government Green Scheme Programme (GSP) with the primary objectives of promoting agronomic production through irrigation, enhancing national food security and uplifting rural communities.

In recent years, the Musese GSIP has transitioned into a public-private partnership model, having been leased to a private operator, Mr. Winnie Meitzner, under a 20-year agreement.

The scheme comprises 15 commercial maize fields, each ranging between 42 and 52 hectares, alongside 10 plots of 12 hectares allocated to small-scale farmers as part of a development programme. The scheme has achieved notable production milestones, with 12 of the 15 commercial fields successfully planted covering a total of 525 hectares. Small-scale farmers collectively cultivated 120 hectares with an expected harvest of approximately 1,200 tonnes of maize. Despite challenges such as late planting and non-functional centre pivots that left three (3) fields unused, the majority of crops matured well and were ready for harvest.

The commercial operation produces around 4,000 tonnes of maize annually, while small-scale farmers produces 7.9 tonnes per hectare. A key feature of the Musese GSIP is its integrated maize milling operation which processes up to 20 000 tonnes of maize meal per year. The processed maize products are distributed across 15 retail outlets and through African meat suppliers, contributing to local food supply chains.

The scheme's water infrastructure includes solar-powered pumps and centre pivots, supporting its irrigation needs. Water and energy demands present further challenges. To irrigate one hectare of land, the system requires 5.5 cubic meters of water per hour. With 2 000 hectares currently under cultivation, this translates to a total demand of 11,000 cubic meters of water per hour. While part of this requirement is met through existing infrastructure, additional water is sourced from seasonal floods. The energy required to pump this volume of water is substantial, costing approximately N$700,000 per month. This high expense is largely attributed to maximum demand charges and the limitations of solar energy which operates efficiently only between 9 AM and 4 or 5 PM. Night time pumping is not feasible without additional infrastructure such as battery storage or a dam.

Efforts to integrate solar energy into the national grid have been hampered by unfavourable economic conditions and regulatory hurdles. Currently, the scheme cannot feed excess electricity into the grid and negotiations with NORED are ongoing to resolve this issue. The financial viability of grid integration is further complicated by the cost disparity between purchasing electricity at N$2.20 to N$2.50 per unit and selling it back at only N$0.80 per unit. Each pump in the system is powered by its own inverter and the setup includes both single-phase and large three-phase pumps. Although solar installations have been added by contributors such as Farm Manager, Winnie Meitzner, the original pump station predates these upgrades and remains a limiting factor.

Seeds, fertilizers and equipment are sourced both locally and internationally with an initial investment of N$15 million made in the first year of operation. The scheme is equipped with silos for grain storage, mills for maize processing and sheds for housing machinery and fertilizer. However, the scheme faces several logistical and financial challenges. Transport costs remain high, particularly for crops like maize and wheat that must be

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hauled to distant markets. Additionally, limited coordination between private operators and government-run green schemes hampers strategic planning and resource sharing.

The scheme also includes a warehouse that supports both agricultural and milling operations, where various maize products are stored. Storage capacity at the scheme is still insufficient to take full advantage of seasonal price fluctuations and there are concerns about the sustainability of current seed varieties which may not deliver optimal yields under local conditions. The un-sifted portion of maize which includes the whole kernel is stored in green bags and used for drought relief efforts. The sifted portion stored in red bags involves separating the maize skin and germ is repurposed as cattle feed. Cut maize is specifically designated for feeding livestock supporting the scheme's integrated farming model.

Livestock farming has been incorporated into the scheme as a complementary component to crop production with a particular focus on cattle. The scheme currently maintains about 400 head of cattle with plans to scale up to at least 2 000 to fully utilize available resources and improve profitability. These cattle are fed using by-products from the maize milling process such as cut and sifted maize components which are repurposed as nutritious feed. The livestock component enhances the agricultural ecosystem by utilizing crop residues and contributing to soil fertility through manure. The cattle are raised on approximately 1 000 hectares of land and their integration into the scheme reflects a holistic approach to sustainable agriculture.

6.1.4 Sikondo Green Scheme Irrigation Project

The Sikondo Green Scheme Irrigation Project (GSIP) is a government-led agricultural GSIP located near Rundu, covering a total of 850 hectares. Out of this land, 580 hectares are designated for commercial farming, while 270 hectares are allocated to nine medium-scale farmers, each managing a 25 hectares. Currently, Phase 1 of the scheme is operational while Phase 2 is pending development. Mr. Maxwell Nghidinwa, who manages the farm informed the Committee that plans are underway to utilize the entire land area including the establishment of a feedlot near Rundu to support local cattle farming using maize and wheat by-products. The scheme is actively diversifying its revenue streams beyond staple crops and is exploring the cultivation of fruit trees such as avocados and citrus. A feasibility study is in progress to assess the viability of this expansion. Additionally, the scheme contributes to national seed multiplication efforts through NAMSEED by dedicating 40 hectares annually to produce seeds for mahangu, cowpea, sorghum and maize.

The scheme primarily focuses on cultivating maize and wheat due to their economic viability but in recent years, it has successfully expanded into high-value crops such as potatoes, onions, butternuts, gem squash, green peppers, tomatoes, and watermelons. These crops are particularly well-suited for the seasonal transition from winter to summer with harvests expected around September 2025.

At the time of the visit, watermelons planted in June 2025 were nearing maturity following a typical growth cycle of approximately 90 days. Tomatoes grown as an indeterminate variety, will continue producing until January 2026, offering extended harvesting opportunities. The scheme is noted for its high-quality potato production, with 2025 having produced a bumper harvest that enjoyed wide media attention. These potatoes are sorted and packed in a semi-automated facility that preserves manual labour opportunities for the local community. The sorting process includes brushing, optional washing, drying and size classification with a capacity of up to 500 bags per hour. Spoiled produce is tracked and analyzed to improve operational efficiency and the data is visualized at the end of each season to inform future planning.

Sikondo GSIP uses its own branded packaging which costs approximately N$500 000 per season for 50 000 bags. This highlights a major market opportunity for local entrepreneurs to reduce reliance on controlled packaging suppliers especially given that Namibia currently lacks locally produced plastic packaging. This absence makes it difficult to identify Namibian products in retail stores, limiting brand visibility and market differentiation.

The scheme faces several challenges. Due to high electricity costs, the scheme prefers to sell fresh produce rather than store it, minimizing the need for energy-intensive cold storage. Additionally, procurement inefficiencies have led to inflated input costs making it difficult for medium-scale farmers to access affordable fertilizers and seeds. The fleet of tractors has dwindled over the years with many machines out-dated or non-functional due to a lack of spare parts. Electricity costs remain a significant burden, although efforts are underway to install a solar plant to reduce operational expenses.

The dissolution of Agricultural Business Development Agency (Agribusdev) and the lack of formal recognition within the Ministry of Agriculture, Fisheries, Water and Land Reform have left employees demoralized and uncertain about their employment status, negatively affecting productivity. Many employees are unable to access loans or receive salary increments which further compounds the issues of low morale. The absence of a dedicated Marketing Officer also places an undue burden on the scheme manager, who must manage both production and marketing responsibilities, limiting their effectiveness in either role.

During the discussion with the Committee, the Farm Manager discussed the need for policy reforms. These include the removal of Value Added Tax (VAT) on agricultural inputs and the subsidization of diesel to reduce production costs. The establishment of local fertilizer manufacturing or repackaging facilities as a long-term solution to reduce dependency on South African imports and improve affordability for producers and consumers alike was also discussed.

The Committee emphasized the importance of streamlining procurement processes particularly through the use of the Procurement Act for emergency purchases to avoid delays that hinder operations. Based on the challenges, the Committee also recognized the increasing need to decentralize the management of green

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schemes across Namibia. The current centralized approach where decisions and oversight are primarily handled from Windhoek has led to inefficiencies and a lack of responsiveness to local needs. A regional management model is proposed to enable timely decision-making, better resource management and tailored interventions for each scheme's unique challenges.

6.1.5 Kalimbeza Rice Project

The Kalimbeza Rice Project is a government-supported agricultural scheme located in the Zambezi Region. Totalling 229 hectares, the scheme dedicates 150 hectares to irrigated rice cultivation while the remaining 79 hectares are unsuitable for farming due to sandy soils and dense bush terrain. The scheme plays a strategic role in Namibia's agricultural landscape focusing on rice production to enhance food security and reduce reliance on imports, however, challenges have weakened this role.

Kalimbeza cultivates two primary rice varieties: Irga and Supa, with the latter sourced from Zambia. A combined harvester was supplied to improve harvesting efficiency. Planting schedules are carefully structured with short varieties typically planted in September and taller flood-resistant varieties in December. Rice crops require approximately 120 days to mature with flowering occurring around December for early-planted crops and April for those planted later. The scheme employs flood irrigation to support rice growth, maintaining water depths of around 10 centimetres during vegetative and budding stages. However, due to uneven terrain and limited pump capacity, the water distribution is managed through rotational supply across different field zones. During the flowering stage, water levels are reduced to about 5 centimetres to optimize yield, although the uneven land complicates uniform drainage. Overall, the irrigation system is insufficient to support cultivation beyond 50 hectares and the uneven terrain further complicates water management during critical growth stages.

From 2019 to 2023, the scheme experienced a complete halt in rice production following a directive from the Ministry of Agriculture, Fisheries, Water and Land Reform. This decision was prompted by unresolved operational challenges including the breakdown of the rice processing machine, inadequate irrigation, infrastructure and financial constraints. The five-year inactivity led to a significant production gap and exacerbated cash flow issues. Cultivation resumed in October 2024, with 58 hectares planted and a harvest of 180 tonnes of rice. However, the scheme remains unable to process the rice due to a broken China-procured processing machine that has been non-functional since 2018. The machine is highly electronic and requires specialized technicians preferably from China for repairs. Although auxiliary machines such as the grater, whitener and sorter are operational, the main unit is beyond repair. As a result, no processing has taken place since 2018 and discussions to process the rice at Ogongo Agricultural College as a temporary solution were held. However, transporting the rice to Ogongo will incur a round-trip cost of approximately N$86 000, placing further strain on the scheme's limited financial resources. The green scheme also reported inadequate storage infrastructure. The current warehouse lacks proper sealing and was not designed for rice, making it

vulnerable to insect and rodent infestations. Since the rice cannot be cooked in its raw form due to the hard husk, proper processing is essential to prevent spoilage and ensure quality. Currently, the warehouse is filled with tonnes of unprocessed rice, which continue to lose value over time and risks infections.

The Ministry of Agriculture, Fisheries, Water and Land Reform allocated a total of N$18 million for infrastructure upgrades, including N$ 8 million for the purchase of a new processing machine for the 20205/2026 FY. Other upgrades include another N$ 8 million towards consultancy services alone for the land levelling and about N$ 2 million for warehouse renovations. However, the Committee raised concerns with the farm management about the efficiency of the expenditures in the amount of N$8 million for land levelling alone, describing it as too costly.

High input costs continue to be a challenge. The scheme faces high input costs for diesel, fertilizer and electricity with its limited cash flow due to reliance on rice as the sole crop, thus restricting operational flexibility. In addition, bureaucratic bottlenecks hinder timely procurement as all purchases must be approved centrally by officials in Windhoek. This centralized system has led to delays in minor repairs and essential purchases. For instance, one machine remained grounded for two months due to a tyre issue that could not be repaired or replaced until funds were released. Previously, the scheme manager could approve purchases up to N$5 000 but this authority has been reduced to petty cash limits which are insufficient for most operational needs.

The scheme has six tractors but only two are fully functional while a third is the one with a flat tyre. The remaining tractors have been grounded for extended periods due to mechanical issues and delays in securing repairs. Technicians from Agricultural Technology Center (ATC) have managed to restore some, including the JCB Construction Equipment (Namibia) CC tractor but one tractor remains out of service due to a repair cost of N$56 000 which was only recently funded. Most of the tractors are specialized models such as New Holland and Major Ferguson requiring expert technicians who are primarily based in Windhoek. Additionally, the company pays a monthly parking fee of N$6 000 to a private company to store equipment.

There is a pressing problem of the ongoing conflict with the local community. Residents neighbouring the farm reportedly cut the fence and allowed livestock to graze on cultivated land particularly after harvest when leftover crops attract animals. This damages crops and infrastructure leading to increased maintenance costs. Despite efforts to engage with the community, the problem persists.

A 150kW solar plant was installed to help reduce electricity costs. Initially, the reduction was noticeable and the relief in cost was welcome. However, over the months, the increase in electricity tariffs continued to rise steadily. The Farm Manager cannot explain why they still pay between N$ 90 000 to N$ 150 000 monthly toward electricity, despite having a solar plant that produces more than enough power during the day to be able to cover for electricity used after the sun has set. This solar plant also pumps water from the Zambezi

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River for irrigation. Currently, any unused electricity is loaded back to NORED through the national grid. NORED does not consider this nor does it waive the costs incurred by the scheme during their production period. The Farm Manager implored on the Committee to request the MAFWLR to engage NORED and work out a new pricing formula that will see the project gain credit from NORED and in turn, be exempted from paying any electricity.

During the engagements, the concept of diversifying crop production was also raised. The 79 hectares of unused land could be allocated for vegetable cultivation which would enhance cash flow and provide alternative revenue streams. Suggestions included planting fodder crops such as sorghum which are more resilient and experimenting with potatoes which can grow in sandy soil if supported by appropriate irrigation. Sugarcane was considered too but the available land was deemed too small to support both rice and sugarcane cultivation. Millet was also proposed but its vulnerability to flooding makes it a risky choice for the region.

Staff at the Kalimbeza Rice Project also expressed their frustration at their current job status, which has been in limbo since the dissolution of Agribusdev. Many are on contract and the contracts keep getting extended without a clear directive on the way forward. They claim that no one from the MAFWLR has come to brief them on the way forward or explain to them their employment status and service conditions. This has left staff at the GSIP frustrated and uncertain about the future. They implored the Committee to address the matter with officials from the Ministry.

6.1.6 Katima Liselo Green Scheme Irrigation Project

Located in the Zambezi Region, the Katima Liselo Green Scheme Irrigation Project underwent a major transformation in 2023 after lying idle for over two decades. A Cabinet directive assigned the National Correctional Service the responsibility of redeveloping the site, marking a new chapter in its history. A ground-breaking ceremony held on 26 September 2024, officially launched its conversion into a correctional agricultural hub. The scheme is designed to serve multiple purposes by boosting national food production, equipping inmates with practical agricultural skills and contributing to community nutrition and development.

The total land area of the scheme is 870 hectares, consisting of 830 hectares of dry land and 40 hectares situated near the river. A portion of this land has been allocated to NAMPOWER for a regional power line initiative that connects Namibia with neighbouring Botswana, Zambia and Zimbabwe. Planning for the scheme has been methodical and involves soil testing to guide fertilizer application and infrastructure assessments to determine irrigation needs. A consultant has completed land mapping and drafted irrigation layouts although the selection of suppliers for irrigation equipment remains pending.

In the initial phase of redevelopment, officers from the Namibian Correctional Service undertook all groundwork including land clearing and ploughing. Inmates are expected to assume agricultural responsibilities once their living units are constructed. Trial cultivation began in January 2025 with officers

planting maize. Despite high expectations, the harvest yielded only 44 bags equivalent to two tonnes due to reliance on rain-fed agriculture which was inadequate.

The production strategy for the scheme includes cultivating staple cereals such as maize, wheat and sunflower alongside a variety of fruits and vegetables. Plans are also in place to add value through on-site processing by converting maize into maize meal, wheat into flour and sunflower into cooking oil. To date, 125 hectares of land have been cleared and four centrifugal pumps have been installed at the riverside to support irrigation. However, the existing underground asbestos pipes are outdated and must be replaced with modern PVC piping to ensure efficient water distribution and reduce health risks.

However, agricultural machinery is limited and transport for officers to the field is inadequate affecting mobility and productivity. In terms of security issues, there have been reports of illegal border crossings by communities from Zambia into Namibia where individuals allegedly cut through the fence of the Green Scheme to enter Namibia. Once agricultural activities commence there are fears that produce may be stolen from the scheme if border control is not addressed.

6.2 SMALL TO MEDIUM SCALE FARMERS

These farmers are allocated individual hectares within the green schemes and are supported through access to irrigation infrastructure, technical guidance and shared resources. The ethos of incorporating small to medium scale farmers within the larger green schemes was to enable these farmers to progress through a structured development pathway starting as small scale producers then graduating to medium scale and eventually becoming large scale commercial farmers capable of reinvesting their knowledge and capital into their home communities. However, the Committee has noted that many of the small and medium scale farmers have remained in the same category for over a decade. They indicated that they are unable to advance due to structural limitations, lack of capital and insufficient support.

Small scale farmers play a vital role in the green schemes' overall output. In addition to maize and other crops, they cultivate a variety of fresh produce such as potatoes, sweet potatoes, cabbages, cabbages, carrots, tomatoes and green peppers. These farmers benefit from shared infrastructure and technical support which enables them to diversify their crop production when resources are available. However, they face their own set of challenges, most notably delayed payments for produce sold and lack of proper markets, all which negatively impacts their cash flow and limits their ability to reinvest in future production.

6.2.1 Uvhungu-Vhungu

The scheme has ten (10) small scale farmers who manage two (2) blocks of three (3) hectares, totaling to 60 hectares under production that are supported through shared irrigation infrastructure and technical guidance. These farmers engage in cultivating staple crops such as maize, along with a variety of fresh produce depending on season and available resources.

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The small scale farmers have emphasized that their ability to sustain agricultural production is increasingly compromised by the unreliable availability of water, frequent electricity outages and high cost of fuel required to operate backup systems. The small scale farmers also identified limited access to reliable markets, delayed payments for their produce and insufficient access to agricultural inputs like quality seeds and fertilizers as major challenges. This lack of support, they said, has left them vulnerable to crop failure and financial loss.

The farmers further experience structural limitations that prevent them from progressing to medium scale operations. Without access to cold storage facilities, efficient marketing channels and consistent financial support, these farmers are struggling to maintain their profit and reinvest in their operations. They also encounter issues with the handling and distribution of their produce with Agro- Marketing and Trade Agency (AMTA), such as delaying of collecting fresh produce, unclear pricing mechanisms and lack of responsiveness. The farmers also highlighted the need for improved access to markets and value chain, noting that without reliable transportation, aggregation services and buyer linkages, their produce risks going to waste or being sold at unfair prices. Farmers believe that with the right support and shared commitment to agricultural development, they can become a model of sustainable and inclusive farmers that empowers other producers and strengthen food security in the region.

The farmers urgently called for comprehensive investment in infrastructure, further advocating for stronger institutional support including regular communication, technical training and inclusive planning processes that recognizes their expertise and lived experiences from Agro-Marketing and Trade Agency (AMTA) and Ministry of Agriculture, Water, Fisheries and Land Reform.

6.2.2 Shadikongoro

Despite facing numerous challenges, including limited access to machinery, equipment, lack of cold storage facilities and market constraints, the small scale farmers at Shadikongoro have demonstrated resilience and commitment to agricultural production. In recent seasons, they have cultivated crops such as maize, wheat, sunflowers, watermelons and butternuts often under difficult conditions and with minimal support. Their productivity is often hampered by the lack of proper storage for perishable produce which leads to spoilage and financial losses. The absence of a cold storage further worsens these problems especially for vegetables and fruits that requires refrigeration to maintain freshness.

Moreover, the scheme manager expressed concerns about the lack of market access which affects their ability to sell harvested crops at fair prices and in a timely manner. Without reliable buyers or structured marketing channels, their produce often remains unsold or is sold at a loss.

Although crops are successfully harvested, there is no guarantee that a market will be available to absorb the produce leaving farmers vulnerable to price fluctuations and unsold stock. This problem is especially critical

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during peak periods when market access is limited or delayed. As such, small scale farmers continue to struggle with inconsistent and unreliable access to buyers.

The small scale farmers also raised concerns regarding the Agro-Marketing and Trade Agency (AMTA), particularly in relation to the handling, marketing and distribution of their fresh produce. They claim a lack of timely and reliable collection of fresh produce from the schemes leading to spoilage. They further claimed a perceived lack of responsiveness and engagement from AMTA in addressing these challenges. The farmers have called for more inclusive dialogue, better coordination and reforms that would allow green schemes to either market their produce independently or through more efficient and accountable systems. The current centralized model intended to streamline agricultural trade has in practice created bottlenecks that suppress productivity and discourages farmers.

Another major concern is the absence of transparent and consistent pricing mechanisms with AMTA. Small scale farmers have expressed frustration over unclear pricing structures and delayed payment which undermine their ability to plan, invest and sustain their operations. In some cases, produce is reportedly rejected without clear justification or accepted at prices far below market value leaving farmers with little bargaining power and no alternative channels to sell their good.

Farmers also highlighted the limited access to agricultural inputs such as quality seeds, fertilizers and irrigation equipment. Although the Shadikongoro Green Scheme has provided seeds to some farmers in the past, many still struggle to secure consistent and timely supplies especially during peak planting seasons. This lack of access affects crop yields and reduces the reliability of their harvests.

Outside of AMTA, most small-scale farmers do not have formal contracts or guaranteed buyers for their crops. They rely heavily on the green scheme or local informal markets, which are often saturated or offer low prices. The lack of structured marketing channels and price stability makes it difficult for farmers to plan financially or scale their operations.

6.2.3 Musese

The Scheme has allocated 10 plots of 12 hectares each to small scale farmers, amounting to a total of 120 hectares specifically reserved for their use. These farmers primarily focus on cultivating maize and their collective efforts are expected to yield an annual harvest of approximately 1 200 tonnes. To support their agricultural activities and enhance their living conditions, each farmer resides on-site in a designated house, fostering a close-knit farming community and ensuring proximity to their fields. Small-scale farmers began harvesting around July 2025, although logistical delays related to silo readiness from the Agro-Marketing and Trade Agency (AMTA) affected the timing of the harvest.

Small-scale farmers face a range of persistent challenges that hinder their productivity and long-term sustainability. One of the most pressing issues is limited access to reliable and profitable markets. Many

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farmers struggle to find consistent outlets for their produce and often compete in saturated local markets that lack adequate infrastructure. This situation not only reduces their profit but also discourages further investment in farming activities. Additionally, these farmers encounter difficulties in obtaining credit which restricts their ability to purchase essential inputs and expand their operations.

Access to agricultural inputs remains another critical concern. Many small-scale farmers have limited availability of quality seeds, fertilizers and modern equipment all of which are vital for achieving optimal crop yields and maintaining farm efficiency. Without these resources, farmers are unable to fully capitalize on the potential of their land resulting in lower productivity and reduced income.

Financial unpredictability is worsened by the high costs of inputs and the low prices received for outputs. This imbalance makes it difficult for farmers to generate sufficient profits, reinvest in their farms or consider scaling up their production. As a result, many remain trapped in a cycle of low productivity and limited growth unable to fully benefit from the opportunities provided by the scheme.

6.2.4 Sikondo

There are nine medium-scale farmers, each managing approximately 25 hectares of land, primarily used for cultivating staple crops such as maize and wheat. Medium scale farmers at Sikondo face a range of persistent challenges that hinder productivity and growth, including limited access to affordable agricultural inputs caused by inflated procurement costs. These strains their operational budgets and reduce their ability to invest in quality seeds, fertilizers, and other essential resources. Additionally, delays in land preparation are a recurring issue due to a shortage of functional tractors resulting in missed planting windows and lower yields while the absence of a dedicated Marketing Officer worsens market access difficulties. These leaves the scheme without crucial support in identifying buyers, negotiating prices, or navigating distribution channels.

There is financial uncertainty stemming from delayed payments by the Agro-Marketing and Trade Agency (AMTA), which forces many farmers to postpone replanting until they receive compensation for previous harvests thereby leaving fields idle between seasons and disrupting the continuity of production cycles. These interconnected challenges not only limit the economic potential of medium-scale farmers but also threaten the overall sustainability and efficiency of the scheme.

The market for wheat and maize is considered economically viable due to their consistent demand and market stability. However, these farmers Farm manager also encouraged to diversify into high-value crops like vegetables and melons to enhance profitability and resilience.

6.3 STAKEHOLDER ENGAGEMENTS AND MINISTERIAL BRIEFING

6.3.1 Engagements with Farmers Unions

On the 19 of June 2024, the Standing Committee held stakeholder engagements with various Farmers Unions to assess the concerns and challenges within the agricultural sector that affect both unions and workers. The Committee met with the Previously Disadvantaged Namibia Farmers Union (PDNFU), Namibia Agricultural Union (NAU), Namibia Agriculture Union and Namibia National Farmers Union (NNFU).

The unions emphasized agriculture's central role in Namibia's economy and their critical role in food security, supporting over 70% of the population. The unions expressed concerns over pressing national issues affecting the agricultural sector and called for stronger government and stakeholder support to mitigate challenges caused by prolonged drought, limited market access and inadequate agricultural infrastructure and technologies. The unions advocated for policy reforms that will see them promoting agriculture in an amore organized manner in order to improve its productivity and profitability.

The unions stressed their efforts in empowering farmers through capacity building initiatives, transforming livelihoods from substances to commercial farming and promoting climate adaptation strategies. They acknowledged the support from the Ministry of Agriculture, Water, Fisheries and Land Reform, however concerns were raised on its inadequacy in areas such as training, subsidies and disaster relief.

The key issues discussed is the persistent drought, with union leaders calling for a robust and inclusive implementation plan that reflects Cabinet resolutions and closes gaps in the current drought relief program. Furthermore, despite reviews of the implementation of the Affirmative Action Loan Scheme (AALS), unions prompted for renewed appeals and reforms to alleviate debt burdens, land redistribution and expand access to farming opportunities to support emerging farmers.

The discussion also touched on the challenges in the Northern Communal Areas, emphasizing the need to restore and improve the veterinary infrastructure, marketing systems and animal health controls. The unions expressed concerns over proposed minimum wage increases, arguing it could threaten the sector and lead to job losses. Additionally, the union addressed the escalating of human wildlife conflict, especially in farming regions and called for a comprehensive solution to human wildlife conflict including fair compensation, improved veterinary cordon fence infrastructure and community empowerment.

The engagement concluded with a shared commitment to strengthen collaboration across Namibia's agricultural sector. It recognized the persistent challenges faced by farmers such as limited access to resources and institutional support. The unions emphasized the need for inclusive policy reforms aimed at equitable land distribution, veterinary systems, improved market access, wage structures and climate resilient practices.

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6.3.2 Engagement with Agro-Marketing and Trade Agency (AMTA)

On the 4th November 2025, the Standing Committee held an engagement with the Agro-Marketing and Trade Agency (AMTA) to address persistent concerns raised by Green Schemes Irrigation Projects (GSIP) including small and medium scale farmers during its oversight visit. AMTA was established in 2013 by the Cabinet as a government mandated entity tasked with facilitating domestic markets for local producers and contributing to national food security. Its mandate obligated it to procure locally and maintain grain reserves for emergency response. The agency core function is not intended to operate as a profit driven commercial enterprise, should it prioritize profit over public interest, it would risk institutional sanction or closure.

The delegation from AMTA was led by the Chief Executive Officer, Mr. Percy Misika and his team of Senior Officials. Mr. Msika said AMTA is bound by the floor prices set by the Namibian Agronomic Board (NAP) which are determined in consultation with stakeholders. AMTA cannot purchase below these regulated prices, limiting its flexibility in sourcing cheaper imports. AMTA sell and stores staple grains such as mahangu and maize in silos for emergency release during the time of national disaster in the country. However, the agency acknowledged that prolonged storage often results in moisture loss which degrades both the volume and quality of the grains affecting the resale value and can lead to downgrading of produce classifications such as from Grade A to Grade B.

AMTA offers cooling facilities that can help prolong the lifespan of fresh produce. Previously, AMTA relied on independent agents to sell farmers produce on consignment. This model often resulted in spoilage and financial loss which burden falling on the producer rather than the agent. This has since been discontinued. AMTA now purchases produce directly from farmers and pays within two (2) to three (3) days mostly on Tuesdays and Thursdays subject to the cash flow availability. For small and medium scale farmers, while delays may occur due to thirty (30) day payment terms with large institutional buyers. AMTA prioritizes expedited payments and commits to a maximum payment window of fourteen (14) days to ensure farmers are compensated promptly. Any loss in value post-procurement is now absorbed by AMTA not the farmers.

During the COVID-19 pandemic when the borders were closed, 800 000 vulnerable citizens were reliant on local reserves. At the SADC minimum standard of 340 grams per person per day, Namibia's current silo capacity of 22,900 tonnes can only sustain three million people for one month and 24 days. The World Food Programme (WFP), the Food and Agriculture Organization (FAO), and the World Health Organization (WHO) recommends a daily intake of 800 grams per person. Comparatively, Botswana with a smaller population maintains a reserve capacity of 300,000 tonnes. If another disaster were to strike, Namibia's reserves would only feed the vulnerable population for one (1) month and eighteen 18 days. AMTA emphasized to the Committee that failure to expand these reserves could result in a humanitarian crisis and is encouraging producers to sell to AMTA not as a market transaction but as a national food security contribution.

Prior to 2019, AMTA operated with a budget of N$ 36 million. However, from 2019 to 2021, funding closed and many GSIPs were not in production. In 2022, the government funding resumed and AMTA began purchasing from small and medium scale farmers. In 2025, AMTA expanded its procurement to include commercial producers by acquiring 5 396 tonnes of grains from various GSIPs, to date, over N$ 37 million has been paid out to producers.

The recent 130 000 hectares planned for cereal productions by GSIPs has raises urgent concern about the storage capacity with existing insufficient infrastructure to accommodate it. Currently Namibia's silos capacity stands at 22 000 tonnes which has never been fully utilized. AMTA recommended that 40 000 tonnes should be filled immediately and the national capacity be expanded to 99 tonnes within five (5) years and in future to 150 000 tonnes. This should include both public and private sectors contributions.

The Committee also called for an assessment of the capacity of private millers and recommended that silos be constructed at key entry points such as Katima Mulilo to reduce transport costs and facilitate low-cost imports from Malawi and Zambia. Existing facilities at Shadikongoro GSIP and Musese GSIP which include silos and milling plants should be complemented by new infrastructure at Ndonga Linena and other points in regions.

Additionally, AMTA lacks the legal status as a public entity. All assets are government owned and there is currently no legislation establishing AMTA as a legal or public entity. This legal gap prevents financial institutions from extending loans or funding to AMTA.

Additional concerns that AMTA raised to the Standing Committee is regarding to the impact of levies and taxation on farmers. Levies are needed, but they must be structured to support and promote agronomic development from input provision to market access. The absence of a VAT waiver on agronomic products and inputs makes local produce more expensive and undermines competitiveness. This, the officials said, needs to be addressed to close the affordability and access gaps in agriculture sector.

During the engagement, AMTA acknowledged several logistical and structural challenges that have hindered its effectiveness. These include limited procurement flexibility, significant losses due to long term holding and inability to compete with more private sectors. AMTA admitted to past operational shortcomings particularly under the previous model where independent agents sold farmers produce on consignment. This arrangement has led to spoilage of produce and financial losses born by the producers themselves.

6.3.3 Ministerial Briefing (Ministry of Agriculture, Water, Fisheries and Land Reform)

As part of the Committee's primary mission to strengthen Namibia's strategic efforts in achieving sustainable food security, the Standing Committee held a briefing session with the Ministry of Agriculture, Water, Fisheries and Land Reform on the 5th of November 2025. The delegation from the Ministry was led by the

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Minister, Honourable Inge Zaamwani Kamwi, and accompanied by senior officials from the Agriculture Production, Extension and Engineering Services Directorate.

The Ministry emphasized the pivotal role of agriculture in Namibia's socio-economic development, noting that the sector supports approximately 70% of the population and contributes 5.8% to GDP. The Committee was further informed that, although the sector demonstrated resilience during the COVID-19 pandemic, there is an urgent need to achieve food self-sufficiency, strengthen value chains, and ensure inclusive market access for smallholder farmers. To this end, the government continues to make substantial investments in green schemes, although the Ministry acknowledged that the benefits of these schemes remain under-leveraged.

Since the transfer of GSIPs to the MAFWLR, the Ministry has invested N$400 million towards their full development since 2023. Additional funding remains necessary for the Orange River Irrigation Project (ORIP), Uvhungu Vhungu Dairy, Shitemo, Neckartal, Tandjieskoppe, Zone, Liselo, and Kalimbeza. Despite these investments, the effective operation of GSIPs continues to face significant challenges.

The Ministry identified the following key challenges affecting GSIPs:

a) Climate shocks
b) Infertile soils
c) High electricity and input costs
d) Pests and diseases
e) Lack of diversification in crop production
f) Outdated implements and equipment
g) Limited market access for smallholder farmers

To address these challenges, the Ministry outlined interventions, many of which align with recommendations previously made by the Committee. The proposed interventions include:
a) Development of efficient irrigation policies responsive to water scarcity
b) Renegotiation of electricity tariffs and subsidization of energy costs
c) Installation of solar systems across all schemes
d) Amendment of the Procurement Act to facilitate timely acquisition of agricultural inputs
e) Review of the Green Scheme Policy (2008) to expand land allocation for smallholder and medium-scale farmers
f) Auction of obsolete equipment, with proceeds reinvested into infrastructure upgrades

Of the eleven government-run Green Scheme Irrigation Projects (GSIPs), eight are under the direct management of the Ministry, while three are leased to private operators. However, due to financial constraints, most projects remained inactive until late 2022, when operations resumed following a Cabinet directive.

Currently, all schemes are fully operational, except for the Orange River Irrigation Project, Kalimbeza Rice Project, Uvhungu Vhungu Dairy, and Shitemo.

Minister Zaamwani Kamwi expressed concern over the findings of the Multi-Dimensional Poverty Report, which indicated that 43.3% of Namibia's population is multi-dimensionally poor. She observed that coordination among stakeholders is currently disjointed and emphasized the need for improved collaboration to address this challenge. The Minister clarified that the role of the Ministry is not to produce food directly, but to facilitate conditions whereby farmers can produce sufficient food for themselves and for the country, while also accessing markets. She further highlighted that the government, through the Ministry, has provided extensive support services, including subsidized ploughing and extension services, yet, challenges persist. The Minister also noted that critical delays, such as the unavailability of tractors at major projects like Shadikongoro, continue to disrupt agricultural production, echoing the Committee's concerns regarding delayed service delivery.

During the Ministry's last engagement with the Committee in 2022, it was indicated that solar plants were to be installed at Sikondo, Shadikongoro, and Etunda during the 2023/24 Financial Year (FY). Three years later, the situation remains largely unchanged. During this briefing, the Ministry reported that consultants have now been appointed to design solar systems for Etunda, Sikondo, Ndonga Linena, Musese SSF, Shitemo SSF, Shadikongoro, and Hardap. According to the Ministry, the designs are expected to be completed within the current FY, with construction scheduled for the 2026/2027 FY.

Regarding progress on the implementation of the Committee's recommendations, the Ministry informed the Committee that a 190 KWP solar plant, valued at US$2.5 million, was installed at the Kalimbeza Rice Project, reportedly reducing monthly electricity costs from N$150,000 to N$5,000. However, the Committee observed that the situation on the ground differed from this report. While the farm initially experienced significantly lower electricity costs following the installation, costs have continued to rise. At the time of the Committee's visit, the Farm Manager indicated that electricity expenses had not provided the anticipated relief necessary to mitigate high input costs. The Ministry acknowledged this discrepancy during her Ministerial familiarization visit to the GSIPs, noting to the Committee that the solar panels were not fully yielding their intended benefits. It was further explained that NORED applies a maximum demand charge and does not account for excess power fed back into the grid. Following Presidential intervention, a consultative meeting involving NORED, the Electricity Control Board (ECB), and other stakeholders is scheduled for 10 November 2025 to address the issue of high electricity costs.

The Committee further shared additional observations on the Kalimbeza Rice Project with the Ministry's delegation, including concerns regarding the condition of the warehouse and rice processing equipment, as well as the allocation of N$ 8 million for landscaping of the rice fields, among other issues. The Minister

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informed the Committee that the government was aware of the situation at Kalimbeza and that the Ministry had sought to intervene by arranging for the rice to be transported to the Ogongo Agricultural College for processing. However, it was discovered that the cost of transporting the rice was prohibitively high, and the processing plant at Ogongo was not sufficiently large to handle the required volume of rice.

The Committee also raised concerns regarding recurring bottlenecks and bureaucratic limitations within the Procurement Act and its impact on the agricultural sector. While the Act provides for timely procurement through 36-month contracts, emergency procedures, or Requests for Quotations (RFQs), these mechanisms have not fully addressed the urgent needs of the agricultural production sector. The Ministry informed the Committee that, since 2023, 36-month contracts have been secured with service providers for seeds, fertilizers, and chemicals, with no reported delays. This has enabled the continued implementation of 36-month contracts and ongoing infrastructure maintenance to ensure timely delivery of goods and services. Contracts for engineering services have also been concluded, and related infrastructure repairs are underway, with completion expected by the end of the year. However, during site visits, the Committee received numerous complaints regarding the procurement system and the limitations of the emergency provisions within the Act, which were reported to hamper productivity. The Ministry further indicated that amendments to the Procurement Act are underway, at an advanced stage, and will soon be presented to Parliament.

During prior investigations into the Green Scheme Irrigation Projects (GSIPs), the Committee found that GSIPs operated by AgriBusDev were underperforming compared to those managed by private entities. Consequently, the Committee recommended an investigation into the sustainability of AgriBusDev to ensure its long-term viability. In 2022, Cabinet directed that AgriBusDev be dissolved and that Green Schemes be leased to private operators. Following this, Farm Managers have been guiding operational specifications, resulting in significant improvements in the management and performance of GSIPs. In 2025, Ndonga Linena independently procured tractors and implements, and the Auditor-General was requested to audit AgriBusDev's financial records.

Although the Cabinet directive stipulated the dissolution of AgriBusDev and the leasing of Green Schemes to private entities, in practice the schemes were transferred to the Ministry of Agriculture, Water, Fisheries and Land Reform (MAFWLR), creating a level of uncertainty regarding the future of these food production hubs. Despite the directive, AgriBusDev continues to operate, an issue the Committee raised during engagements. The Ministry informed the Committee that a consultant is currently finalizing the wind-up process, which is expected to conclude by the end of November 2025. The consultant is addressing union consultations, legal matters, and other technical aspects of the process. Minister Zaamwani-Kamwi emphasized that while the Cabinet directive remains valid, the dissolution process requires due process and is therefore taking time.

The ongoing dissolution process has left former Agribusdev employees in uncertainty regarding their employment status. The Committee expressed serious concern over how AgriBusDev has managed staff employment conditions, noting that the last salary increment for employees was in 2011. The Committee advised that a solution should be sought to clarify the employment status of staff, all of whom have been on the MAFWLR payroll following the dissolution of the entity.

The Ministry clarified that the Cabinet directive specified the categories of staff to be absorbed by the MAFWLR, including Engineers, Agronomists, and selected positions in Finance. Other employees, such as artisans, laborers, and approximately 300 additional staff, were to be absorbed by the Green Scheme operators when the farms were leased. However, the leasing process was delayed, partly due to drought conditions, and the Green Schemes were subsequently returned to production under government management. Ministry officials further stated that the Ministry lacks the authority, organizational structure, and budget to absorb these remaining employees, and that approval to do so must come from the Office of the Prime Minister.

The Committee informed the Minister and officials present that, based on its observations, while certain provisions within the Procurement Act help to alleviate some challenges in the management of farms, significant obstacle remains, such as the authorization and approval processes are centralized in Windhoek, which creates delays for GSIPs in the regions. The Committee therefore emphasized the need to decentralize the management of farms to Regional Councils.

In response, the Ministry informed the Committee that the recommendation to decentralize management functions has been considered, and that a sustainability study is currently underway to assess operational models, including the potential decentralization of GSIPs to Regional Councils. The Minister further explained that certain functions related to GSIP operations have already been delegated, such as those managed by the agricultural extension services.

The Committee also raised concern regarding the current threshold of N$5000 allocated to Farm Managers for incidental expenses, stating that this amount is insufficient for the effective management of farms. The Committee recommended that the threshold be increased to N$100,000. The Minister concurred with the proposal and indicated that the matter would be taken up for consideration, acknowledging the high cost of farming operations.

The Ministry of Agriculture, Water, Fisheries and Land Reform (MAFWLR) is considering a review of the current Green Scheme Irrigation Project (GSIP) models to enable government to develop farms up to the level of bulk services, after which remaining developments would be undertaken by lessees. However, this model is not currently provided for in the existing Green Scheme Policy, and therefore, the policy must be reviewed to accommodate it, along with additional models. Further revisions to the policy are necessary to introduce

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frameworks that enhance private sector participation, thereby reducing government's direct responsibility for food production. When the private sector leads food production initiatives, such operations fall outside the constraints of the Procurement Act, reducing the administrative and financial burden on government. This approach will also help address recurring concerns regarding the need to amend the Procurement Act. Expanding the policy to incorporate multiple models will strengthen private sector engagement and promote sustainability in agricultural development.

The Ministry informed the Committee that pilot initiatives are underway to test new models for managing GSIPs. Under this approach, government intends to privatize or lease GSIPs into smaller operational units. The Ministry aims to complete the development of the Neckartal Irrigation Project, Tandjieskoppe Irrigation Project, Zone Irrigation Project, and Katima–Liselo Irrigation Project through Public-Private Partnerships (PPPs) using this model. In this arrangement, government will focus on developing the GSIPs up to the level of bulk services, after which the private sector will assume responsibility for further development and management. In addition, the Ministry indicated that agro-processing infrastructure is planned for Rundu, Hardap, and Etaka, where facilities for watermelon processing, fish drying and packaging, and tomato paste production will be established, respectively.

On the matter of Small-Scale Farmers (SSFs) and Medium-Scale Farmers (MSFs), the Minister acknowledged the Committee's concerns and remarked that these categories of farmers were originally intended to grow and eventually transition to higher levels of commercial farming. However, many have not achieved this progression. The Minister attributed this stagnation to limited diversification within the sector, which constrains growth and keeps farmers operating at the same scale. Honourable Zaamwani-Kamwi further emphasized that many farmers continue to cultivate the same crops, leading to an oversupply of identical produce within the same markets. To enhance market access for Small-Scale Farmers (SSFs) and Medium-Scale Farmers (MSFs), the Ministry highlighted its continued support in facilitating the transportation of produce to the Agro-Marketing and Trade Agency (AMTA), millers, and private buyers. The Committee, however, informed the Ministry of the frustrations expressed by SSFs and MSFs regarding AMTA's operations, particularly the lengthy delays in payment, which hinder farmers' ability to reinvest in subsequent production cycles. The Committee informed the Ministry of the need to review Value Added Tax (VAT) and import duties on agricultural produce to make farming more affordable and to reduce the cost of food for consumers. The Minister acknowledged the Committee's concern and agreed that the matter warrants further consideration, noting that engagements on the issue will commence in due course.

The Committee informed the Ministry that, during its study visit to Egypt, it observed that despite Egypt's aquifer not being regularly recharged due to the country's arid climate and limited rainfall, significant investments in research on irrigation and agriculture have enabled Egypt to transform desert land into fertile, productive areas suitable for food production. The Committee therefore emphasized the urgent need for the

Government of Namibia to invest in agricultural research and to adopt a comprehensive Irrigation Master Plan. Such a plan should not only address the needs of Green Scheme Irrigation Projects (GSIPs) but also extend to communal areas to support agricultural production nationwide.

The Committee noted that with a functional and effective irrigation plan, Namibians could potentially benefit from affordable — and eventually free — water consumption for agricultural purposes. It further highlighted that GSIPs currently lack sufficient dedicated land for seed production, resulting in a continued reliance on imported seeds, a situation the Committee warned poses a risk to national food security.

Another concern raised by the Committee was the shortage of agricultural extension workers. It observed that Extension Officers have shifted away from providing essential advisory services to farmers and are not adequately fulfilling their roles. The Minister explained that the limited visibility and effectiveness of Extension Officers are primarily due to a lack of vehicles, which restricts their ability to travel between farms. Owing to financial constraints, the Ministry has been unable to procure a sufficient number of vehicles to facilitate their mobility. Additionally, the Committee underscored the need for Namibia to establish a local fertilizer production facility, emphasizing that this would strengthen national food self-sufficiency and reduce dependency on imports.

With regard to the Committee's previous recommendation to prioritize local and regional suppliers, the Ministry informed the Committee that such suppliers are indeed considered in procurement processes. The Minister acknowledged the importance of the Committee's recommendation and emphasized that the Ministry continues to promote close collaboration and coordination between the implementing Ministry and the Ministry responsible for signing procurement agreements.However, the Minister noted that in cases where projects are funded by external partners, such as the African Development Bank, the scope of procurement is often determined by the funder and may vary depending on the value of the contract under consideration. To further safeguard local producers, the Namibia Agronomic Board (NAB) enforces border closures on cereals and horticultural products when domestic supply is deemed sufficient, thereby protecting and promoting local agricultural production.

7. FINDINGS

The Committee made the following key finding:

7.1 The Committee found that the cost of electricity remains a challenge and hampers the success of many of the GSIPs that were inspected. The absence of solar energy infrastructure across green scheme farms poses a significant operational challenge. Further to this, the Committee also found that the Northern Electricity Distributor (NORED) charges exorbitant fees to GSIPs despite the greens schemes such as the Kalimbeza Rice Project feeding the grid.

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7.2 The Committee found that agricultural equipment, machinery and essential inputs such as fertilizers, seeds and irrigations systems and pesticides were too costly. Agriculture and GSIP in particular should be treated as infant industries and be protected from high VAT and import duties.

7.3 The Committee also found that major agricultural equipment that is central to food production were either broken or not procured. These include the sunflower oil processing machine, the combine harvester and centre pivots at Shadikongoro

7.4 The Committee found that the Kavango West Region does not have a milling plant and this disrupts the production process and limits support to both commercial and small scale farmers.

7.5 Further to a lack of a milling plant, the Committee also found that there is a lack of sufficient silos at most GSIPs, including coolers and fridges and sufficient and suitable warehouses to accommodate both summer and winter crops.

7.6 The Committee also found that there is a need for the construction of a weighbridges to address discrepancies that occur at the milling plants, resulting in the loss to farmers.

7.7 The Committee found that there is a lack of technical experts in the field of green schemes, irrigation, food production and management of GSIPs in Namibia. There is also a lack of comprehensive training programs for farm workers in topics including crop management, irrigation techniques, machinery operation, pest control and sustainable farming practices.

7.8 The Committee found that transporting agricultural produce is costly for commercial, government and small to medium GSIPs.

7.9 The Committee found that small scale farmers do not graduate in time to the level of medium and eventually large scale as it is intended to. The system is blocked and there is no real growth for small and medium scale farmers because they need support in finances, mentorship and skills.

7.10 The Committee found that the GSIP need more equipment such as pump stations, combine harvesters and center pivots in order to farm effectively and make maximum use of the land.

7.11 The Committee also learned that more needs to be done in the area of research to ensure that climate resilient practices, advanced irrigation technologies, soil-compatible seed varieties and new crop varieties are produced and readily available for use to boost the agricultural sector.

7.12 The Committee also found that agriculture as a field of study and as a career option was not much sought after and does not appeal much to the younger generation. This has rendered the field prone to those who have no real passion for food production.

7.13 The Committee also found that the role and effectiveness of AMTA is not well-understood and many of the GSIPs, including small to medium scale farmers are not fully satisfied with the services rendered by the agency, particularly in terms of marketing and pricing and payment formulae.

7.14 A recurring issue that the Committee uncovered is the bureaucratic bottlenecks that persist in the agricultural sector with respect to the management of GSIPs.

7.15 The Committee found that many of the systems, such as procurement that affect emergency repairs and equipment purchases, are still not decentralised and major but time-bound decisions are made in Windhoek, which causes delays in implementation.

7.16 The Committee also found that GSIPs do not have a dedicated maintenance fund and a reliable spare parts supply chain to reduce equipment downtime and extend the lifespan of agricultural machinery.

7.17 The Committee also found that there is a lack of proper monitoring and evaluation systems in place which should track the implementation of programs in GSIP. This, the Committee found, will help assess in good time and report back any challenges experienced for quick action.

7.18 The Committee also found that GSIPs lack experienced technicians and artisans in their staff complement to either maintain or repair complex farm equipment, including trucks and other machinery. This has led to equipment laying idle for years without any repairs, after which they become redundant and are written off.

7.19 The Committee also found that community members who live in the areas around GSIPs vandalize the property through cutting of fence, removing the fence wires, gates and other material. Their animals then destroy the fields once they gain access to them. With respect to Farmers Union, the Committee found that the Cabinet reviewed reforms to the Affirmative Action Loan Scheme remains unimplemented and this has left farmers burdened by debt and facing legal action and auctions.

7.20 The Committee also found that there is a lack of sufficient assistance in areas such as subsidies, capacity building and policy development within GSIPs and the agricultural landscape in general.

7.21 The Committee found that after the dissolution of Agribusdev, staff are in limbo regarding their employment status. Many do not know for how long their contracts will continue and are thus unable to plan properly a situation which has left them frustrated.

8. CONCLUSION

The Green Scheme Irrigation Project (GSIP), established under Namibia's broader Green Scheme Policy represent a strategic initiative aimed at boosting national food security, stimulating rural development and reducing reliance on imported staple foods through the cultivation of irrigated crops with maize being the primary focus. By fostering partnerships between the private sector and smallholder farmers, GSIPs not only promotes investment in irrigation-based agriculture, but also creates vital employment opportunities in rural communities.

Central to GSIP's success are the small and medium-scale farmers who play a pivotal role in agricultural output and community engagement supported by a model that integrates commercial farming with local empowerment through land allocation, technical assistance and shared infrastructure. Despite facing challenges such as climate variability and disruptions caused by the COVID-19 pandemic, the unwavering

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resilience and motivation of the workforce of GSIP reflect a deep-rooted commitment to advancing agricultural development and ensuring long-term food security in Namibia.

The Committee noted with concern that many of the challenges observed by the Standing Committee on Urban and Rural Development during its oversight visit from 23 February 2020 to 06 March 2020 and that of the Standing Committee on Agriculture, Environment and Natural Resources in 2022, were still not resolved. Many of the recommendations the emanated from these oversight missions and forwarded to the relevant Ministries were not implemented, and this has continued to the hamper production level of Green Scheme Irrigation Projects in Kavango West, Kavango East and Zambezi regions. Despite government's efforts to address the high electricity bills by setting up solar plants at places like the Kalimbeza and Musese GSIPs, the high input costs by NORED continue to threaten the sustainability of Green Schemes.

Bureaucratic processes in the procurement of farming implements such as seeds and fertilizers disrupt the sowing period, which further impacts the harvests negatively. With respect to markets and access, small and medium scale farmers continue to travel long distances to sell their produce, at great expense. Although AMTA does procure from small to medium scale farmers, the agency takes too long to pay, a situation that affects the cash flow of green schemes.

The GSIP has demonstrated tangible success by delivering harvests to various regions across the country thereby contributing meaningfully to national food distribution and showcasing its growing operational capacity. A case in point is the potato bumper harvest from Sikondo GSIP. However, long standing challenges persist and if not handled as a matter of priority, they may derail the efforts it has taken to bring about the success currently recorded by some GSIPs. The recommendations, many of them not new, emphasize the need to make green schemes more sustainable, productive and responsive to the needs of the communities they serve.

9. RECOMMENDATIONS

Based on the findings, the Committee hereby recommends that;

9.1 The Ministry of Agriculture, Fisheries, Water and Land Reform should prioritise the installation of solar plants at all GSIPs to reduce reliance on electricity distributors. The Ministry should further collaborate with NamPower and Ministry of Industry, Mines and Energy to establish direct energy supply agreements that allow GSIP to access electricity at reduced demand charges;

9.2 The Ministry Agriculture, Fisheries, Water and Land Reform should intervene in the issue relating to the exorbitant fees charged by NORED despite some GSIPS having solar plants and feeding the grid so that favourable agreements are reached between GSIP and NORED;

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9.3 The Ministry of International Relations and Trade and the Ministry of Finance should consider implementing a targeted tax exemption policy for the agricultural sector by waiving import and VAT duties on identified key agricultural products such as equipment, machinery and essential inputs such as fertilizers, seeds and irrigations systems and pesticides. Further to this, stricter measures must be imposed to protect the industry and ensure its growth and success;

9.4 The Ministry of Agriculture, Fisheries, Water and Land Reform should, as a matter of priority, avail a sufficient budget to procure, repair and/or replace all critical equipment central to food production with quality and durable equipment. These includes the repair of the sunflower processing plant and purchasing of combined harvesters, pump stations, center pivots and tractors whose breakdown has hampered food production;

9.5 The Ministry of Agriculture, Fisheries, Water and Land Reform should develop a policy that provides free or minimally priced access to water for GSIPs and other agricultural projects;

9.6 The Ministry of Agriculture, Fisheries, Water and Land Reform should intensify qualifying training for technicians earmarked for GSIPs to maintain and repair farm equipment, including trucks and other machinery in order to reduce the amount of equipment laying idle without any repairs;

9.7 The Ministry of Agriculture, Fisheries, Water and Land Reform should strengthen assistance in areas such as subsidies and prioritize comprehensive capacity-building programs tailored specifically for small and medium scale farmers within GSIPs on irrigation management, financial literacy and business and marketing skills and extend it to emerging subsistence and commercial farmers across the country;

9.8 The Ministry of Agriculture, Fisheries, Water and Land Reform should construct milling plants at each GSIP to limit disruptions in the food production process. If budget limitations persist, the Ministry of Agriculture, Fisheries, Water and Land Reform should establish a new regional milling plant in the Kavango East and West regions as a priority to support both commercial and small scale farmers;

9.9 The Ministry of Agriculture, Water, Fisheries and Land Reform should construct adequate silos at all GSIPs, including cold storage units at each green scheme or regional hub for both commercial and small scale farmers that is suitable warehouses for winter and summer crops to ensure that food does not spoil and is safely stored;

9.10 The Ministry of Agriculture, Water, Fisheries and Land Reform should construct weighbridges at key GSIPs to reduce costs and losses associated with transporting products to be weighed elsewhere;

9.11 The Ministry of Agriculture, Water, Fisheries and Land Reform and the Ministry of Education, Innovation, Youth, Sport and Culture should promote agriculture as a field of study and make the industry lucrative in order to attract experts to the field of green schemes, irrigation, food production and management at GSIPs in Namibia;

9.12 The Ministry of Agriculture, Water, Fisheries and Land Reform, the Ministry of Education, Innovation, Youth, Sport and Culture and tertiary institutions should establish an inter-ministerial Task Team that will lead research in climate resilient practices, advanced irrigation technologies, soil-

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compatible seed varieties and new crop varieties, ensuring that they are produced and readily available for use to boost the agricultural sector;

9.13 The Ministry of Agriculture, Fisheries, Water and Land Reform should review and redefine AMTAs` operations and marketing models on incorporating direct input from GSIP in order for it to be responsive to the needs of farmers;

9.14 AMTA must establish clear, fair and timely payment systems for small scale farmers to strengthen market linkages and improve agricultural value chains;

9.15 The Ministry of Agriculture, Fisheries, Water and Land Reform should review and decentralize the management of green schemes by empowering regional offices to oversee operations relating to resource allocation, equipment purchases, input distribution, and emergency repairs, directly. Heavy reliance on Windhoek for decision-making creates delays in implementation, procurement and problem resolution;

9.16 The Ministry of Agriculture, Fisheries, Water and Land Reform should formulate a GSIP-specific comprehensive training programme for farm workers in topics including crop management, irrigation techniques, machinery operation, pest control and sustainable farming practices;

9.17 Ministry of Agriculture, Fisheries, Water and Land Reform should ensure that each GSIP is staffed with qualified agricultural professionals, this includes agronomists for crop management, irrigation technicians and business advisors for financial planning and market access;

9.18 The Ministry of Agriculture, Fisheries, Water and Land Reform should collaborate with the Ministry of Works and Transport to develop a subsidized transport models for agricultural produce that will address the high cost of transporting agricultural produce. This can be in a form of a fuel subsidy for GSIPs or an equivalent model that will bring relief to the high cost of transporting agricultural produce;

9.19 The Ministry of Agriculture, Fisheries, Water and Land Reform should review existing farmer graduation models to ensure they are effective, inclusive and time bound, supported by access to finance, mentorship programs and secure land tenure in order for the model to address the challenges faced and ensure that it attains the ethos on which it was established. The revised model should address the challenges and ensure that farmers graduate in time in order for others to also benefit from the scheme;

9.20 The Ministry of Agriculture, Fisheries, Water and Land Reform should ensure that GSIPs have dedicated maintenance funds that will cater for a reliable spare parts supply chain to reduce equipment downtime and extend the lifespan of agricultural machinery;

9.21 The Ministry of Agriculture, Fisheries, Water and Land Reform must establish a Ministerial Specialized Strategic Implementation Team for GSIPS with focused Terms of Reference relating to the monitoring and tracking the implementation of recommendations and directives of GSIPs;

9.22 The Ministry of Agriculture, Fisheries, Water and Land Reform should establish an Inter-Ministerial Green Scheme Committee tasked with tracking the implementation of recommendations, assessing

impact and reporting progress to Parliament and the President. This committee should include representatives from the Ministry, regional offices, farmer Unions and independent experts;

9.23 The Ministry of Agriculture, Fisheries, Water and Land Reform should hold community information sessions to educate local communities on the importance of GSIPs in order to minimise the vandalism of GSIP property;

9.24 The key Ministries of Agriculture, Fisheries, Water and Land Reform and Home Affairs, Immigration, Safety and Security should collaborate closely with the Namibian Correctional Services to reinforce fencing and enhance surveillance infrastructure along the border shared with Zambia to prevent vandalism and illegal crossing through the Katima- Liselo GSIP and for other GSIP which fall victim to vandalism;

9.25 Ministry of Agriculture, Fisheries, Water and Land Reform should strengthen collaboration with farmer's unions, ensuring consistent engagement during policy formulation, planning and evaluation to promote inclusive agricultural development;

9.26 Ministry of Agriculture, Fisheries, Water and Land Reform must implement the revised Affirmative Action Loan Scheme (AALS) incorporating insights and recommendations from its 2020, 2022, 2022, and 2023 reviews to improve access and equity in agricultural financing; and

9.27 Ministry of Agriculture, Fisheries, Water and Land Reform must clarify the employment status of staff of GSIPs who were formally employed in the now defunct Agribusdev.

10. SECTION 2: STUDY VISIT TO THE ARAB REPUBLIC OF EGYPT

The study visit to the Senate of the Arab Republic of Egypt was conducted from the 5th to the 12th of July 2025. The Committee was welcomed by the hosts, its counterpart Committees, namely, the Committees on Agriculture and the Committees on Land and Water of the Senate. Egypt ranked 77th on the latest Global Food Security Index out of 113 countries and is amongst the leaders of irrigation not only in North Africa but globally. It shares a common topography with Namibia; partly desert, partly arid with a perennial river, the great River Nile, hence, the Committee's undertaking under the objectives to gain exposure and understanding of best practices employed by Egypt with respect to laws, relevant policies, technologies and innovation that have enabled the country to maintain food security in the face of climate change.

The delegation engaged with senior government officials, including the Ministers of Agriculture and Land Reclamation, Hon. Alaa Farouk, Minister of Agriculture and Land Reclamation and the Minister of Water Resources and Irrigation, Hon Prof. Dr. Hani Sewilam.

The Committee received technical briefings from the following institutions were:

a) Agriculture Research Center (ARC) on crop science and irrigation efficiency;

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b) Central Laboratory of Residue Analysis and Heavy Metal in Food on food safety and pesticide monitoring;

c) Mechanical and Electrical Research Institute on smart control systems and renewable energy for irrigation;

d) The Environment and Climate Change Research Institute on agriculture national climate adaptation strategies; and

e) Hydraulics Research Institute on river morphology and flood control.

Complementing these briefings were field visits to the Agricultural Museum, National Water Research Center, Irrigation Museum and Cultural Center for Water Science to appreciate Egypt's historical and scientific contributions to water and agricultural development. This was done alongside inspections of a modern irrigation project along the Mansouriya Canal and the Jasmine Garden in Qanater al Khayriya which demonstrated efforts in reducing water losses and improving distribution efficiency through advanced irrigations techniques.

The Committee also visited small holder farmers in Kerdasa in Giza (Northern Cairo) whose farms benefit from the Mansouriya Canal, fed from the Nile, for irrigation. These farmers are have adopted efficient water use practices such as drip and sprinkler irrigation systems, sustainable crop management practices such as crop diversification with drought resistant and high yield varieties, integrated pest management, organic fertilization and soil conversation strategies like crop rotation and intercropping all of which contribute to improved productivity and resilience against climate variability. These farmers have fostered collaboration and continuous learning through cooperatives, knowledge sharing networks and Non-Government Organisations (NGO's) supported training to enhance resilience, food security and rural livelihoods.

The Committee also engaged with the Engineering Task Group (ENTAG)-Egyptian Company for Solid Waste Recycling (ECARU), Egypt's leading agricultural solid waste management company to explore integrated recycling systems, composting technologies and biomass conversion methods supporting sustainable farming.

10.1 Policy and Institutional Coordination Frameworks

Egypt has developed a robust institutional and policy framework to address its interlinked food and water security challenges, with the Ministry of Agriculture and Land Reclamation and the Ministry of Water Resources and Irrigation playing a central role. According to the two Ministries, *food security equals national security* and it is at that level that issues pertaining to food and water security are handled. These ministries coordinate key national strategies such as the Sustainable Agricultural Development Strategy 2030 and the National Water Resources Plan, ensuring a long term planning and integrated resources management. The Committee commends Egypt's innovations in water management and desert land reclamation, expressing its

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strong interest in its irrigation technologies, budgeting approaches for food security and frameworks for supporting small scale and livestock farmers. To further reinforce the multi sectoral coordination, Egypt has established the National Committee for Food and Nutrition Systems, chaired by the Prime Minister which brings together various ministries and stakeholders to align efforts across agriculture, water, health and trade. This integrated governance approach promotes resilience and sustainability.

During the engagement, the Minister of Water Resources and Irrigation highlighted Egypt's critical water situation by outlining the national dependency on an annual Nile River water allocation of 55.5 billion cubic meters despite the demand of 115 billion cubic meters for its population. Egypt employed a multifaceted strategy that includes the indirect importation of 35 billion cubic meters of water annually through food imports such as wheat from Ukraine and Russia and recycling approximately 26 billion cubic meters of agricultural drainage water. This is done using advanced subsurface systems and the use of diminishing non-renewable ground water resources.

The Minister also addressed Egypt's concern regarding the Grand Ethiopian Renaissance Dam (GERD) emphasizing the importance of shared governance and mutually agreed upon operational rules for transboundary water resources. Egypt views the GERDs oversized capacity and unilateral development as a threat to regional water stability but remains committed to cooperation, offering electricity to Ethiopia as part of ongoing negotiations and supporting other regional dam projects developed through consultation.

Egypt advanced to food and water security by employing modern irrigation system technologies to transform arid lands in to fertile zones to support climate resilient farming. Inclusive frameworks are also introduced to empower small scale and livestock farmers with access to training, financing, veterinary support and value addition chains. The country has adopted a strategic budgeting approach to strengthen the national food security, shifting traditional food subsidies toward direct cash payments to better serve vulnerable groups including low income families and elderly and persons with disabilities. This is attained by providing them with monthly financial assistance through smart cards that empowers them to make autonomous food purchasing decisions while also allowing the government to reallocate public funds towards the long term investments in agricultural innovation, climate resilient irrigation technologies and rural development initiatives. These initiatives bolster productivity, improve nutritional and promote economic resilience across Egypt's food system.

Agriculture remains a critical sector in Egypt, providing employment to nearly 19% of the population and contributing approximately 11.6 % to the national Gross Domestic Product (GDP). Policies such as the Agricultural Solidarity Law and the Water Law of 2021 further support inclusive governance and promote cooperative farming. While private land ownership dominates, land fragmentation due to inheritance laws remains a challenge. However, the Water User Associations (WUAs) model allows for functional consolidation and improved productivity without altering ownership structures.

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Egypt has witnessed a transformative era in agriculture. The Ministry of Agriculture and Land Reclamation has successfully reclaimed over about 9,240 square kilometres of desert land, aiming for a national target of 13 million hectares to expand arable land and boost food production. Through the advanced modern irrigation systems, scientific research and self-sufficient fertilizer production, Egypt now exports nearly 10 million tonnes of agricultural produce annually, aspiring to reach 12 billion in export revenue by 2030. The Minister stressed the importance of public private synergies and investments in agricultural businesses as essential pillars for long term sustainability and food security. Egypt integrated agricultural governance model covers livestock, fisheries, poultry and food stocks.

Through the Ministry of Agriculture and Land Reclamation, Egypt extended an offer for Namibia's participation in capacity building training through the International Centre for Agriculture (EICA) with tailor made training programs focused on irrigation, livestock, agro industrial process and climate adaptive farming and agricultural innovation. The training is conducted under the leadership of Professor Saad Moussa.

10.2 Food Security Initiatives

Food security is central to the national development agenda of Egypt. This is demonstrated through the country's comprehensive and coordinated approach and strong political commitment which is reflected in the efforts to achieve long-term food and nutrition security. With an estimated population of about 120 million, the government of Egypt has not spared any effort to feed it's growing population. Egypt's government has implemented a range of coordinated strategies and programmes to strengthen food systems, enhance agricultural productivity, and improve nutrition outcomes in response to its population growth, water scarcity, and vulnerability to global food supply disruptions.

The National Food and Nutrition Strategy (2022–2030) aims to integrate agriculture, health, education, and social protection efforts to achieve sustainable food and nutrition security. The strategies do not only focus on food production, but efforts are extended on reducing malnutrition, improving dietary diversity, and promoting resilient agricultural systems through framework such as the Operational Plan for Food and Nutrition Systems (2025–2030), all of which is aligned with Egypt Vision 2030 and the Sustainable Development Goals.

To achieve this, the government of Egypt has embarked on major agricultural projects that will aim to reclaim approximately 1.8 million hectares by 2030. These projects also incorporate modern irrigation techniques and mechanised farming to enhance productivity and resource efficiency. This integrated approach is to increase domestic food production and reduce dependence on imports.

The Committee was further informed that in terms of food storage, which is critical in food production, new wheat silos are being constructed while a food hub initiative has been introduced to supports value-chain development through cold storage, packaging, and waste recycling facilities. These successes are attained in

the face of mounting challenges related to water scarcity and the mounting cost of reclaiming land and irrigating it for production.

Egypt has implemented a comprehensive agricultural support initiative to strengthen food security and promote sustainable farming. These efforts include distributing climate resilient seeds, providing livestock vaccines and subsidizing key inputs such as fertilizers, pesticides and irrigation systems. To protect farmers' incomes, the government has also implemented price stabilization mechanisms during market fluctuations.

In addition, Egypt has empowered small holder farmers by expanding their access to credit through agricultural loan programs and enhancing their skills through a robust extension services and training. These programs deliver technical expertise, promote sustainable practices and share vital information on weather, markets and crop management through digital platforms. All these initiatives are aligned with the National Food and Nutrition Strategy (2022-2030) and Egypt Vision 2030, ensuring a long term resilience and sustainability of the country's food systems.

10.3 Scientific Research and Innovation

Egypt is actively promoting food security through coordinated scientific research and innovation led by various national institutes and laboratories. The National Water Research Center along with its affiliated institutes including the Mechanical and Electrical Research Institute focuses on modernizing irrigation and drainage infrastructure by integrating hydro electro mechanical systems with renewable energy, automation and calibration technologies to improve sustainability and performance.

Moreover, the Agricultural Research Center (ARC) in Egypt is recognized as the largest agricultural research institution in the Middle East and Africa. The Center plays a vital role in driving multidisciplinary agricultural innovation through its network of specialised institutes and regional research stations where it pioneers the development of climate resilient crop varieties, improves seed quality, advances soil and water management practices. ARC further promotes sustainable irrigation technologies and integrates biotechnology and digitals tools to support farmers while also serving as a national hub for agricultural capacity building, international collaboration and policy guidance aimed at ensuring food security and environmental sustainability.

At the same time, the Hydraulics Research Institute utilizes advanced physical and numerical modelling to study sediment transport, flood behaviour and infrastructure resilience across the Nile River basin. While the Environmental and Climate Change Research Institute plays a key role in evaluating climate change impacts on water resources and guiding national adaptation policies. Complementing these efforts, is the Central Laboratory for Environmental Quality Monitoring which conducts high precision chemical, biological and microbiological analyses to supply critical data for pollution control and environmental impact assessment. All these research institutions collectively strengthen Egypt's efforts to enhance and improve irrigation

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technologies, water efficiency and climate smart agriculture practices in securing the country's food and water future.

Egypt also engages in global initiatives which supports advanced research on wheat disease resistance, climate impacts on crop yields and digital tools like cloud based support systems to assist farmers, further strengthening the country's commitment to leveraging science and innovation for sustainable agriculture and water resource management in the face of growing environmental and climate challenges.

10.4 Water Resources Management in Arid Conditions and Droughts Adaptations

Egypt's response to promote food security under water scarcity and drought prone conditions is grounded in a comprehensive and integrated framework led by National Water Research Center (NWRC). The center coordinates twelve (12) specialized institutes focusing on hydrology, groundwater, climate change, coastal resilience and water quality, recognizing the country's overwhelming dependence on the Nile River which provides 97% of its freshwater supply and the growing threats posed by climate change.

Egypt has prioritized the use of modern water saving technologies and public engagement strategies. Initiatives such as drip and sprinkler irrigation are actively being deployed to minimise water waste and canal lining projects are used to improve water transport efficiency and reduce water losses from outflow. The Minister responsible for this portfolio, elaborated on its use of Water User Association (WUAs) which empower farmers to collectively manage water usage, coordinate cropping and share irrigations costs. These WUAs operate within a larger institutional structure culminating in the National Water Council also chaired by the Prime Minister, ensuring that farmers have representation in national policy making decision.

The government also invests in waste water recycling and desalination plants to diversify and bolster its water resources. Public engagement is promoted through the Cultural Center of Water Sciences and outreach programs encouraging behavioural change in water conservation alongside WUAs and in partnership with the Ministry of Water Resources and Irrigation to support a collaborative water governance.

Egypt receive approximately 60 billion meter cubic of fresh water annually while the demands exceeds 80 billion meters cubic, thus necessitating the reuse of over 20% of agricultural drainage water and the expansion of desalination technologies. It constructed wetlands and biological treatment systems to purify water for use in agriculture and aquaculture. The country's monitoring network tracks surface and ground water quality, rainfall and aquifer health ensuring safe reuse of water in irrigation and drinking systems. All these strategies form a resilient framework to secure Egypt's agriculture future and adapt to increasingly harsh environmental realities.

10.5 Food Safety and Agro Industrial Systems

Egypt's strategy for enhancing food safety and developing agro industrial systems reflects a dynamic, multi-faceted approach designed to safeguard public health and enhance the credibility of the agricultural productivity exports on the global market. A vital component of this framework is the Central Laboratory of Residue Analysis and Heavy Metals, which plays a critical role in testing food products for pesticides residues and heavy metal contaminants by ensuring strict compliance with both domestic and international safety standards.

The government actively champions Good Agricultural Practices (GAP) by guiding farmers towards sustainable cultivation methods that reduce contamination risk and improve the overall quality of agricultural produce. This is further used to advance food traceability systems that monitor or track agricultural products from the farm to the consumer to promote transparency and facilitate swift responses and interventions when safety concern arises.

Egypt is investing in the development of fertilizer production facilities that generate high quality, contamination free products to boost both crop yields and food safety outcomes. This serves a both the engine for productivity and a barrier against supply limits. This a focused commitment to advance agricultural waste management practices which transform organic waste materials into sustainable resources like compost to curb environmental pollution and strengthen the soil health. All these efforts ensure a resilient food system where the laboratory testing, responsible farming and innovative industrial development contribute to long term food security and public safety.

10.6 Agricultural Waste Management and Circular Economy

Egypt`s approach to agricultural waste management is led by entities like Engineering Task Control (ENTAG) and Egyptian Company for Solid Waste Recycling (ECARU). These companies transform the country's vast supply of agricultural waste, over 33 million tons annually into valuable products such as compost and biogas by reducing environmental hazards like open burning and landfilling dumping which yield into nutrient rich compost to enhance soil fertility, boost sustainable crop productivity and reduces dependence on chemical fertilizers especially in arid regions.

Through their bioconversion process, more than 10 million tons of nutrient rich compost and 12 billion cubic meters of biogas are produced each year contributing to improved soil fertility and cleaner energy sources. This does not only diminish dependence on chemical fertilizers especially in arid regions but also helps combat pressing challenges such as land degradation, water scarcity and pollution.

ENTAG and ECARU initiatives express the values of circular management by reintegrating food and crop residues into the agricultural cycle by minimizing waste and enhancing resources efficiency. These efforts are

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aligned with Egypt`s broader sustainability goals under the Egypt Vision 2030 and the Waste Management Law of 2020 which promote public private partnerships and encourage innovation in waste violation.

10.7 Climate Change and Resilience Strategies

Egypt is facing increasingly severe challenges to food security driven by climate change, including the rising of temperatures, minimal rainfall and escalating water scarcity of which all threatening the agricultural productivity across the country. To address these vulnerabilities, the Environment and Climate Change Research Institute plays a central role in driving national resilience strategies and promoting climate adaptive agricultural practices.

The institute conducts comprehensive vulnerability assessments to identify which areas and crop types are most at risk from climate effects such as heat waves, erratic rainfall and water scarcity. The country deployed climate smart agricultural systems that include drought and heat resistant crop varieties, advanced protected agriculture techniques and broad seed sector reform aimed at increasing the availability and use of resilient crops.

Egypt has invested in water reuse infrastructure including large scale projects that harness treated waste water and desalinated water to meet rising irrigation needs and offsets losses due to evaporation. Morden irrigation technologies such as drip and sprinkler systems are introduced to improve water use efficiency while public private partnership play a key role in expanding and maintaining these systems.

10.8 Knowledge Transfer and Cultural Anchoring

This is a multifaceted approach that blends tradition, education and innovation to reinforce food security and national identity. Cultural institutions such as the Agricultural Museum and Jasmine Garden serve as a platform for preserving and showcasing Egypt`s agricultural heritage, offering interactive experience that engage the public and highlight the historical evolution of farming practices from ancient Pharaoh techniques to modern innovations.

To bridge the gap between heritage and modernity, Egypt invests in farmer training programs and digital platforms that disseminate contemporary agricultural knowledge to rural communities. These programs are especially focused on empowering women and youth, recognizing their central role in driving agricultural transformation and ensuring inclusive development. By combining cultural education with cutting edge technology and targeted capacity building, the country anchors its food security efforts in both historical relevance and future resilience.

Egypt and Namibia share a strong historic bilateral relationship rooted in political solidarity, development cooperation and economic ties. The Minister for Agriculture and Land Reclamation, Hon. Alaa Farouk commended that through its research centres, Egypt is keen to provide all forms of support and has offered to

train Namibian agricultural specialists at the Egyptian International Centre for Agriculture, highlighting Egypt's commitmen investments opportunities in the agricultural sector.

In 2023 and 2024, Namibia actively participated in Egypt's cross sectoral development training programs by sending Civil and Agricultural Engineers, Works Inspectors and the Chief Executive Officer from the Ministry of Agriculture, Water, Fisheries and Land Reform, Ministry of Works and Transport and the Gibeon Village Council. This does not only exemplify the depth of cooperation between the two countries but also highlights the mutual commitment to enhance technical expertise, infrastructure development and sustainable agricultural practices.

Egypt and Namibia signed the Memorandum of Understand (MoU) in 2023 focusing on enhancing bilateral collaboration to strengthen water resources management and agricultural sustainability and address shared challenges and promote sustainable development.

12. FINDINGS

With respect to the study visit to the Senate of the Arab Republic of Egypt on promotion of food security, the Committee made the following findings:

12.1Egypt has established the National Committee for Food and Nutrition Systems, chaired by the Prime Minister which brings together various ministries and stakeholders to align efforts across agriculture, water, health and trade. This integrated governance approach promotes resilience and sustainability.

12.2Egypt has developed a robust institutional and policy framework to address its interlinked food and water security challenges, with the Ministry of Agriculture and Land Reclamation and the Ministry of Water Resources and Irrigation playing a central role.

12.3According to the two Ministries the Committee engage with, *food security equals national security* and it is at that level that issues pertaining to food and water security are handled. These ministries coordinate key national strategies such as the Sustainable Agricultural Development Strategy 2030 and the National Water Resources Plan, ensuring a long term planning and integrated resources management.

12.4Egypt has built canals along the Nile River that irrigates agricultural projects.

12.5Egypt has likened food security to national security and so it is dealt with at that level.

12.6Egypt's faces significant water scarcity due to its limited fresh water resources and its reliance on the Nile River. To address this, the country has adopted advanced irrigation technologies such as drip and sprinkler irrigations, rehabilitated canal and initiated waste water reuse for agricultural purposes.

12.7Food security as national priority, the country integrated into major development initiatives like the New Delta and Future of Egypt Projects. These programs aim to reclaim desert land to expand local food production and reduce dependence on imports.

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12.8Egypt has invested in modern irrigation techniques, sustainable farming practices and training programs to build agricultural skills, support self-sufficiency and improve the livelihoods despite challenging environmental conditions.

12.9Egypt is investing in the development of fertilizer production facilities that generate high quality, contamination free products to boost both crop yields and food safety outcomes

12.10 A Memorandum of Understanding (MoU) between Egypt and Namibia signed in 2022/2023 reaffirms mutual cooperation in ground water management, technology transfer, coastal protection and the reuse of water waste management in agriculture.

12.11 Egypt uses treated waste water in agricultural irrigation, helping save approximately 33.5 billion cubic meters of water annually. This strategy eases pressure on the Nile River and increases water availability in arid regions.

12.12 Egypt employs a circular economy approach to process millions of tons of organic waste into bio fertilizers and biogas, promoting soil health, clean energy production and reduced farming costs through agricultural waste management companies ENTAG and ECARU.

12.13 Egypt adopted climate smart agricultural practices focusing on resilience and promotes the use of drought resistant seeds, heat tolerant crop varieties and protected farming systems to combat climate change and ensure sustainable food production.

13 CONCLUSION

Egypt's food security initiatives demonstrate a strong commitment to achieving sustainable agricultural growth and improved nutritional outcomes. Their aggressive and intentional approach to food security, that is equated to national security, is a clear demonstration of that country's targeted approach to ensuring food security. This, coupled with the integration of national strategies, modernisation of agriculture, expansion of storage infrastructure, and partnerships with international organisations reflect a comprehensive approach toward ensuring food availability and resilience. With continued coordination and investment, Egypt is well-positioned to strengthen its food systems and safeguard the well-being of its population.

In the face of severe water scarcity, climate constraints, rapid population growth and dependence on food import, the country has implemented diverse policies aimed at building a resilient and self-reliant food system. This includes investing in sustainable agricultural practices, developing advanced irrigation and water saving technologies, strengthening food supply chains and promoting climate smart farming techniques. The country's effort is guided by long term national strategies which align with global sustainable development goals and emphasizes sustainability, innovation and equity. Through institutional collaboration, public and private partnership and regional engagement, Egypt is progressively transforming its agricultural sector to ensure the availability, affordability and nutritional adequacy of food for its citizens. Egypt's approach to food

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security demonstrate a strategic and adaptive model for countries grappling with resources limitations and climate change challenges.

Namibia stands to gain a lot from existing cooperation agreements between the two countries and it is the duty of the Committee to ensure that these agreements are formally reviewed and operationalize in order for Namibia to gain expert skills and knowledge in ground water management, technology and the reuse of water waste management in agriculture.

14 RECOMMENDATIONS

Based on the findings, the Committee hereby recommends that:

14.1 The Namibian government elevates and prioritises food security as a matter of national security by establishing a National Committee for Food and Nutrition Systems, which will bring together various ministries and stakeholders to align efforts and coordinate key national strategies across agriculture, water, health and trade. The Committee must be chaired by the Prime Minister;

14.2 The Ministry of Agriculture, Water, Fisheries and Land Reform develop and lead a robust institutional and policy framework to address interlinked food and water security challenges;

14.3 The Ministry of Agriculture, Fisheries, Water, and Land Reform and Ministry of International Relations and Trade formally review and operationalize the Memorandum of Understanding (MOU) on ground water management, technology transfer, coastal protection and the reuse of water waste management in agriculture, signed in November 2023 between Egypt's Ministry of Agriculture and Land Reclamation Namibia's Ministry of Agriculture, Water, Fisheries and Land Reform (MAFWLR).

14.4 Ministry of Agriculture, Fisheries, Water and Land Reform implement drip and sprinkler irrigation systems to all agricultural farming projects to enhance efficient water use and reduce wastage.

14.5 Ministry of Agriculture, Fisheries, Water and Land Reform and Ministry of Environment, Forestry and Tourism, in partnership with Municipalities and Local Authorities should establish infrastructure to treat and recycle waste water for agricultural use, helping to mitigate water scarcity and promote sustainable farming.

14.6 Ministry of Agriculture, Fisheries, Water and Land Reform and Ministry of Environment, Forestry and Tourism should initiate programs to convert organic waste into bio fertilizers and biogas. This will reduce farming costs, improve soil health and support circular economy models.

14.7 Ministry of Agriculture, Fisheries, Water and Land Reform facilitate a specialist training to enable exchange programs for agricultural experts to receive training at Egypt's International Center for Agriculture and the Pan African Center for Water and Climate Adaptation focusing on irrigation technologies, land reclamation, sustainable water use.

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14.8 Ministry of Agriculture, Fisheries, Water and Land Reform facilitate the exchange of researchers and technical experts and collaborate with Egypt's Agricultural Research Centre to share expertise on drought resistant crops, soil fertility and water efficient farming systems tailored for Namibia's arid and semi-arid condition.

14.9 Ministry of Agriculture, Fisheries, Water and Land Reform invest in the development and modernization of canals and water distribution systems to support efficient agricultural water management along the perennial Kavango and Zambezi rivers.

15 ADOPTION OF REPORT

This report was adopted by the Standing Committee on Agriculture, Environment and Natural Resources at its meeting of 06 NOVEMBER 2025 in the SECRETARY BOARD ROOM National Council Administration Building.

..... Date 06.11.2025

Honourable Paulus Mbangu, MP

Vice Chairperson: Standing Committee on Agriculture, Environment and Natural Resources

GLOSSARY

Agribusiness: The business sector encompassing farming and farming-related commercial activities, including the production, processing, and distribution of agricultural products.

Agribusdev: Was a Namibian state-owned enterprise established in 2011 and dissolved in 2022 who aim was to manage and operate the country's Green Scheme irrigation projects.

Climate Resilience: The ability of a community, system, or environment to anticipate, prepare for, respond to, and recover from the adverse effects of climate change.

Crop Diversification: The practice of growing a variety of crops on the same farm to improve food security, soil fertility, and income stability.

Drip Irrigation: An efficient irrigation method that delivers water directly to the root zone of plants through a system of pipes and emitters, minimizing water loss.

Food Insecurity: A condition where people do not have reliable access to sufficient, safe, and nutritious food for normal growth, development, and an active, healthy life.

Food Security: The state in which all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food to meet their dietary needs and preferences.

Green Food Hubs: Integrated facilities that handle the storage, cooling, packaging, and marketing of agricultural produce using environmentally friendly and energy-efficient technologies.

Green Scheme: A government initiative in Namibia that promotes the development of irrigation-based agricultural projects along perennial rivers to enhance national food production and employment.

Irrigation Infrastructure: Physical systems and facilities such as canals, pumps, pipes, and reservoirs that are used to supply water for agricultural production.

Land Reclamation: The process of converting desert or unproductive land into arable land suitable for agriculture through irrigation, soil improvement, and infrastructure development.

Perennial Crops: Crops that live for more than two years and produce yields over multiple seasons, such as fruit trees or sugarcane.

Post-Harvest Losses: The reduction in quantity or quality of agricultural produce after harvesting, due to poor storage, transportation, or processing methods.

Resilience: The capacity of individuals, communities, and systems to prepare for, withstand, and recover from shocks such as economic crises, conflicts, or climate change.

Sustainable Agriculture: Farming practices that meet current food needs without compromising the ability of future generations to meet their own, through efficient use of natural resources and environmental stewardship.

Value Chain: The full range of activities involved in bringing an agricultural product from production to the consumer, including processing, packaging, distribution, and marketing.

Water Efficiency: The effective use of water resources to achieve the desired agricultural output with minimal waste or environmental harm.

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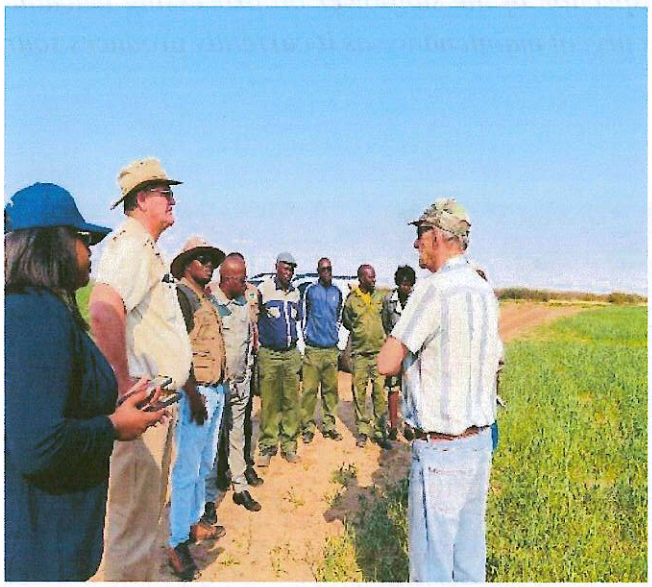
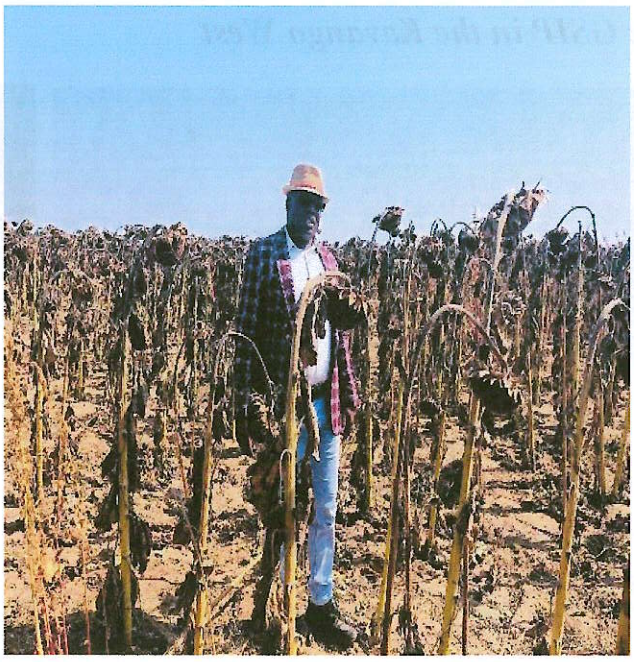
ANNEXURE 1: Images

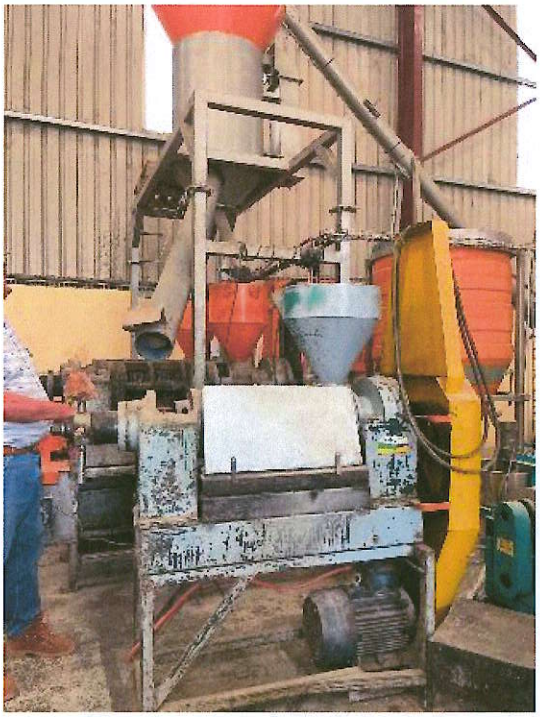
Uvhungu-Vungu GSIP in the Kavango East



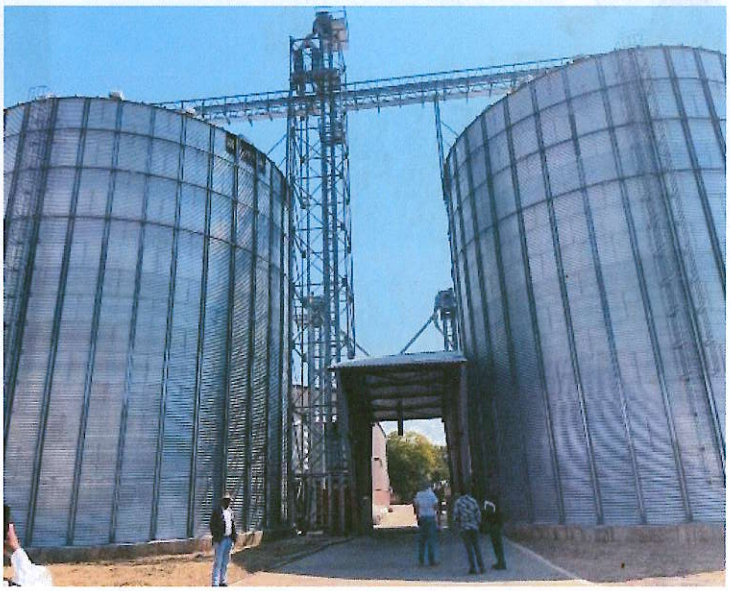
Members of the Standing Committee engaging with the Farm manager of the Uvhungu-Vungu GSIP as he is showing them the wheat field.

Shadikongoro GSIP in the Kavango East





During their visit to the Shadikongoro GSIP , members of the Standing Committee toured the sunflower field and observed the on-site production of maize flour, a vital contribution to the national drought relief efforts in the country. The visit also included an inspection of the sunflower oil processing machine which requires urgent maintenance as it currently produces sour cooking oil.



The maize storage silos at Shadikongoro GSIP used for preserving harvested grains. >>>

Musese GSIP in the Kavango West

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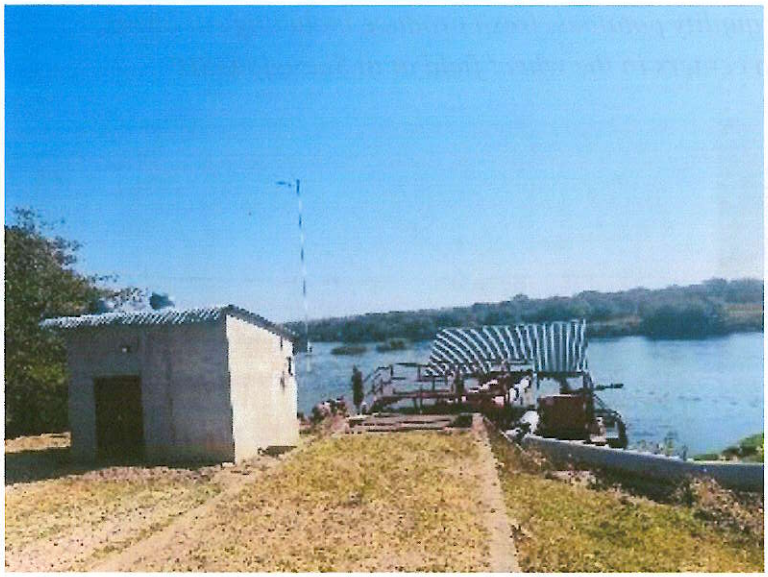

The Committee members visited the livestock farming and toured the warehouse storing maize flour and assessed practices of how maize off-cuts are repurposed for livestock feed at Musese GSIP. The scheme has a water pump system for irrigations.

Sikondo GSIP in the Kavango West

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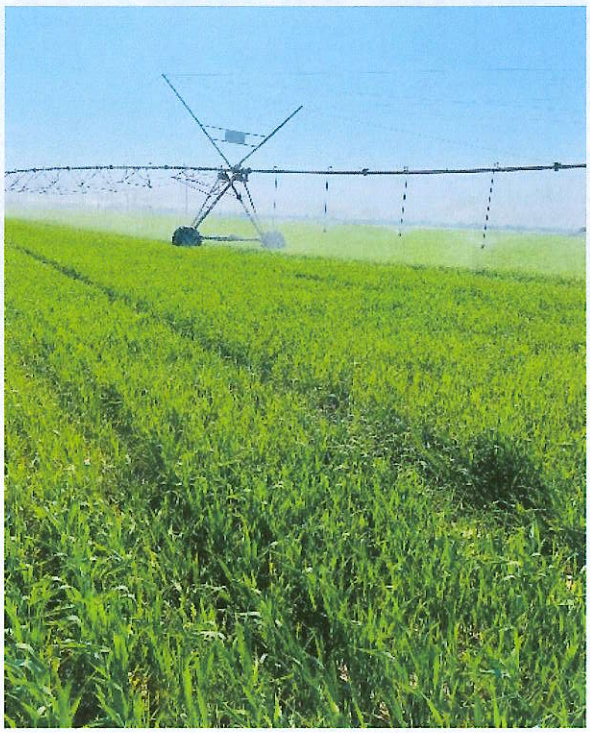
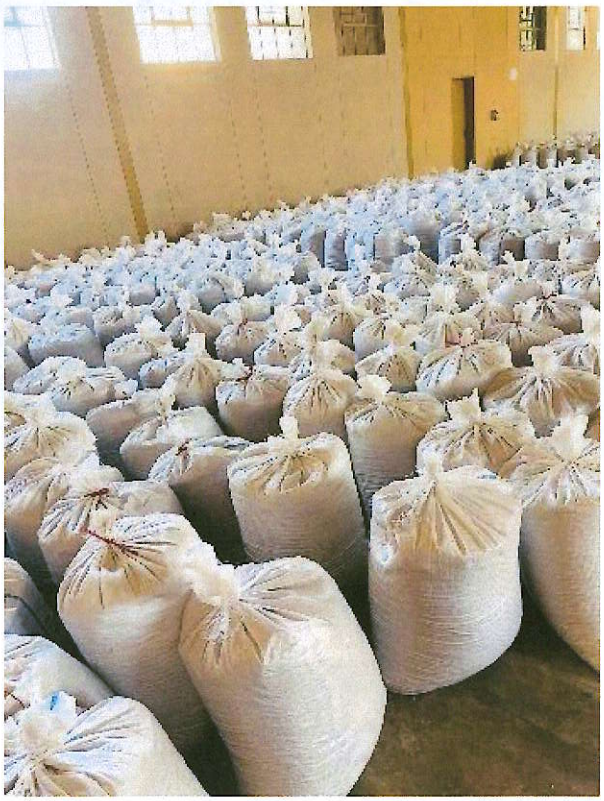
The Committee members visited the field of high quality potatoes, fresh produce including cabbages, onions, tomatoes and carrots and pivot irrigation centers in the wheat field at at Sikondo GSIP



Kalimbeza Rice GSIP in the Zambezi Region



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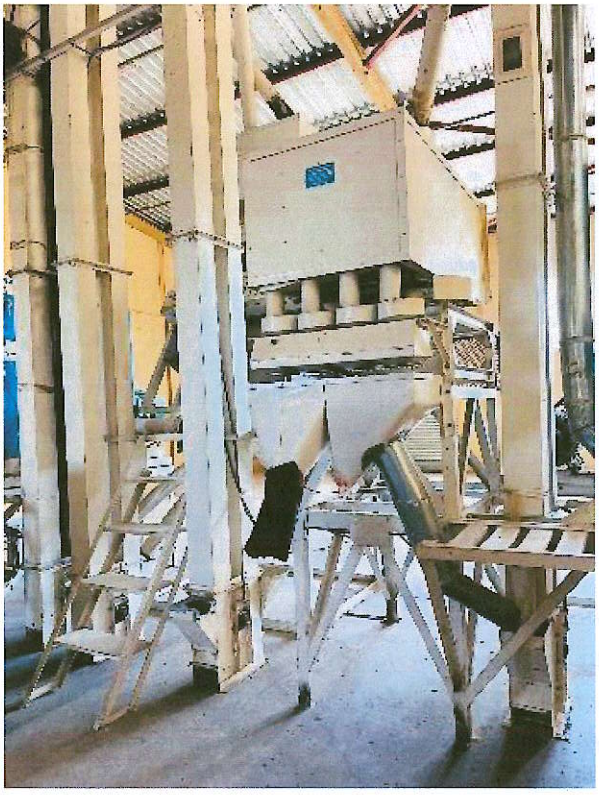

<<< Members of the Committee visited the Kalimbeza GSIP warehouse where they inspected stored unprocessed rice and assessed the condition of the broken rice processing machine.

Katima-Liselo GSIP in the Zambezi Region

Members of the Committee visited the Katima Liselo GSIP now under the management of the Namibian Correctional Services. The scheme has a functioning pump station for irrigation and ongoing land clearing activities for production.

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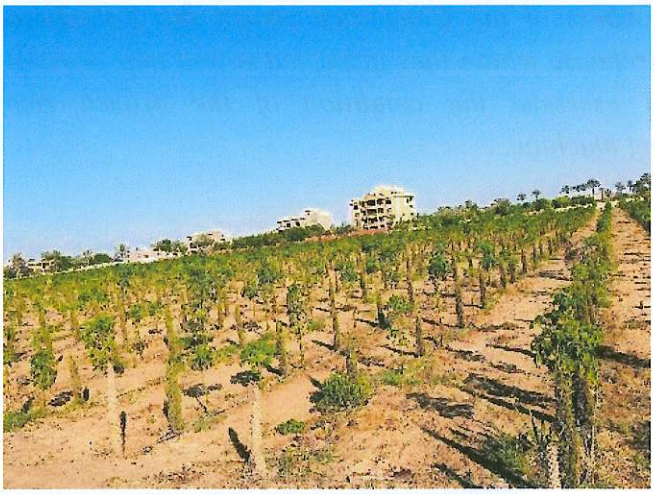
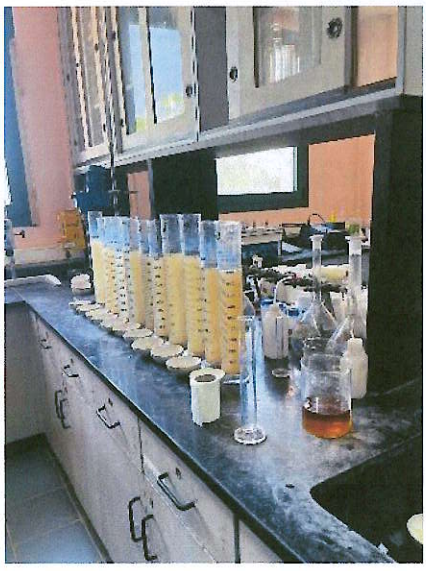
Small holder farmers in Kerdasa - Egypt



Members of the committee visited smallholder farmers in Kerdasa, where they observed the farmers' unwavering dedication to cultivating crops under challenging conditions and skills of blending traditional knowledge with adaptive techniques.

Central Laboratory for Environmental Quality Monitoring - Egypt



Members visited the Central Laboratory for Environmental and Water Quality Monitoring in Egypt, where they observed advanced analytical processes used to assess water and environmental samples.

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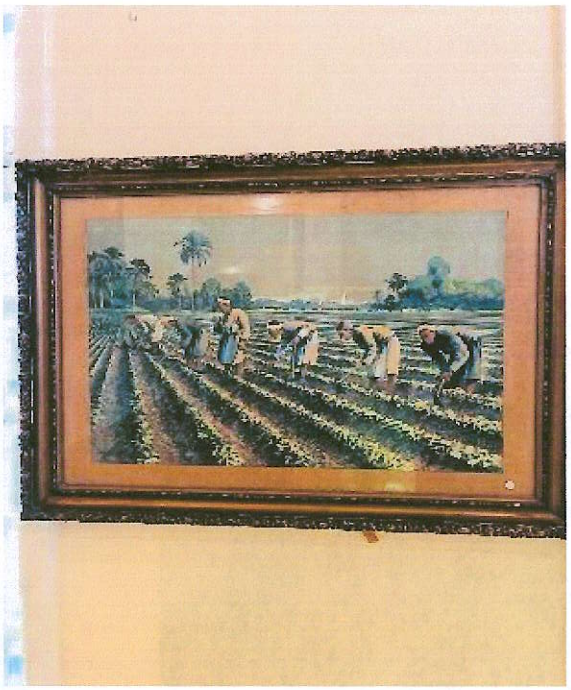
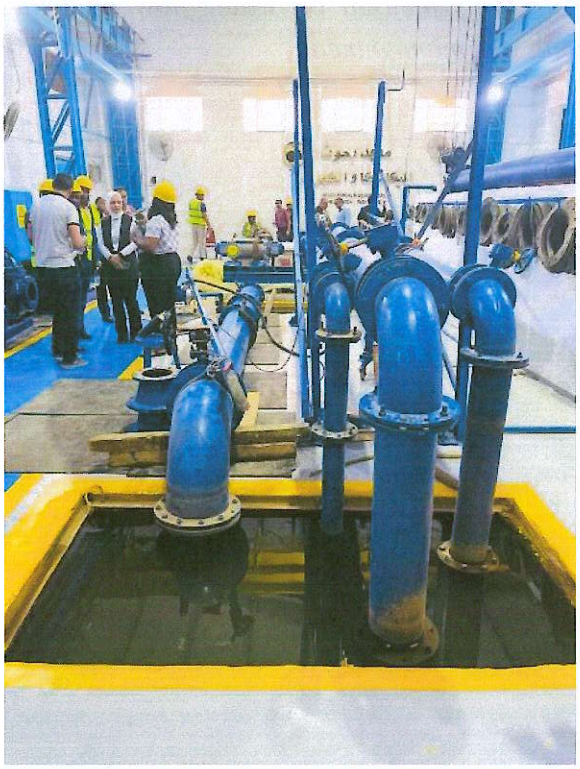
Agricultural Museum in Egypt



Members visited the Agricultural Museum in Egypt where they explored curated exhibits showcasing the country's rich agricultural heritage from ancient irrigation techniques and traditional farming tools to modern innovation.

Mechanical and Electrical Research Institute (MERI)



Members visited the Mechanical and Electrical Research Institute (MERI) in Egypt, where they explored advanced technologies used to optimize water infrastructure and pumping systems and engaged with engineers on innovations that support efficient water resource management and environmental sustainability.

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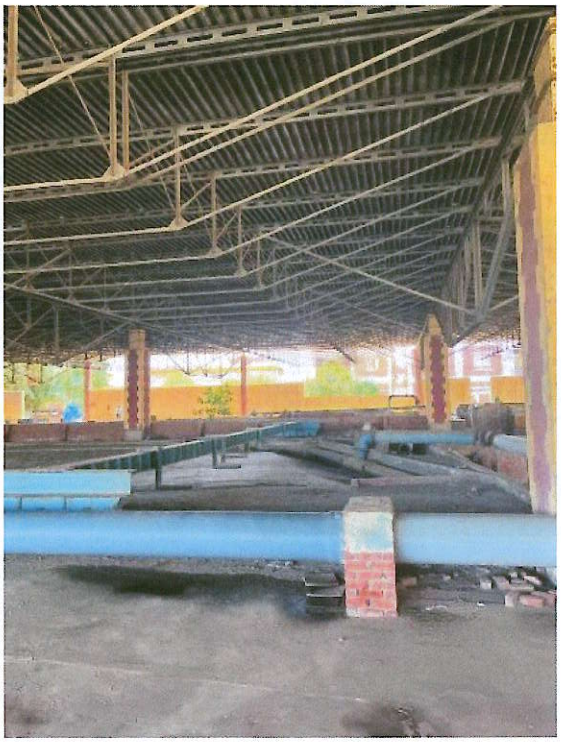
Hydraulic Research Institute (HRI)



Members visited the Hydraulic Research Institute (HRI) in Egypt where they engaged with specialists and observed technical demonstrations focused on water flow modeling, irrigation and flood risk management.

Environment and Climate Changes Research Institute

Members engaged with researchers on climate modelling, environmental monitoring and adaptation strategies.

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