Summary report of the baseline survey results by country-RESADE

I. Country: Togo

1.1. Country Profile

Togo, a West African nation with a population of 8.5 million (2023), spans 56,785 square kilometers, with 70.2% of its land dedicated to agriculture. Its tropical to savanna climate features distinct rainy and dry seasons, with annual rainfall ranging from 900 mm along the coast to 2,000 mm in the Plateaux Region. Agriculture is vital to Togo's economy, contributing 40% to GDP and employing 70% of the workforce, though rural poverty, especially among female-headed households, remains widespread. Climate change threatens Togo's agriculture through rising temperatures, altered rainfall patterns, and prolonged dry periods, prompting the adoption of Climate-Smart Agriculture and sustainable land management practices.

1.2. Household demography and socioeconomic characteristics

In Togo's baseline survey, 64 farmers were interviewed across four villages: Ando Keke Kope, Atite Kope, Atti Betekpo, and Atti Apedokoe. About 53% of respondents were male, with an average age of 44 years, while 47% were female, averaging 47 years. The overall average age of respondents was approximately 45 years, with ages ranging from 25 to 77 years.

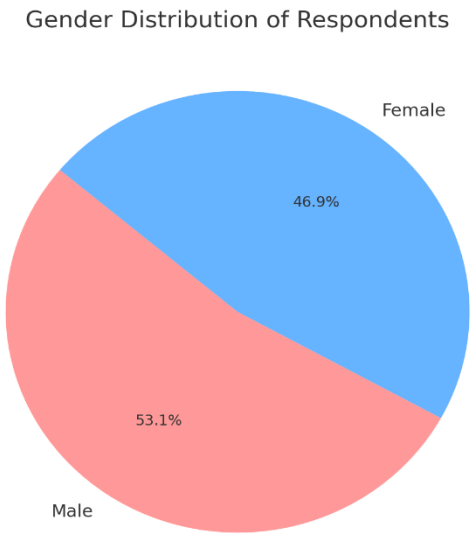

Figure 1.2. Gender distribution

In Togo, 91% of surveyed farmers are not members of cooperatives, while only 9% belong to one. This limited membership restricts access to essential agricultural support such as technical assistance,

input supply, and market information, emphasizing the need to promote cooperative participation to boost productivity and income.

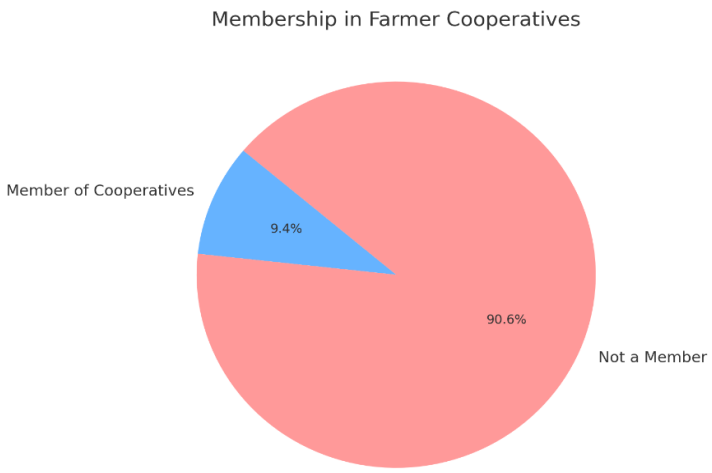

Figure 1. 2. Farmers cooperatives membership

Based on the data, 72% of surveyed household heads in Togo are literate, while 25% are illiterate. Among those with formal education, 60% completed primary or secondary school, with only a small percentage completing high school or college. The average annual household income is approximately 409,000 FCFA ($665, at 1 FCFA = $0.0016). On average, men earn 149,312 FCFA, while women earn 660,000 FCFA, with both contributing significantly to household income at 194,581 FCFA.

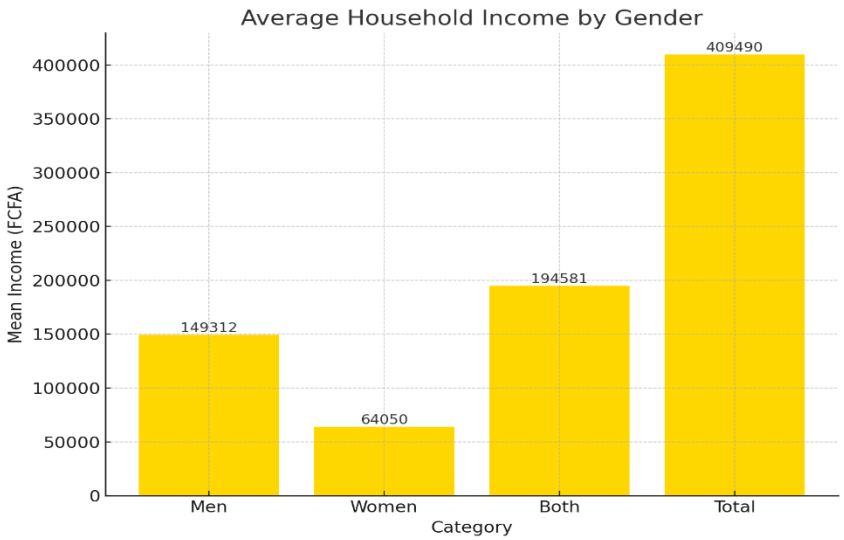

Figure 1.3. Average income by gender

In the targeted population, agriculture is the primary source of household income, accounting for 36%, followed by livestock (24%), trade (15%), and temporary or permanent employment (20%). Household expenses are almost evenly split, with 49.21% allocated to food-related costs and 50.79% directed toward non-food items and other expenditures.

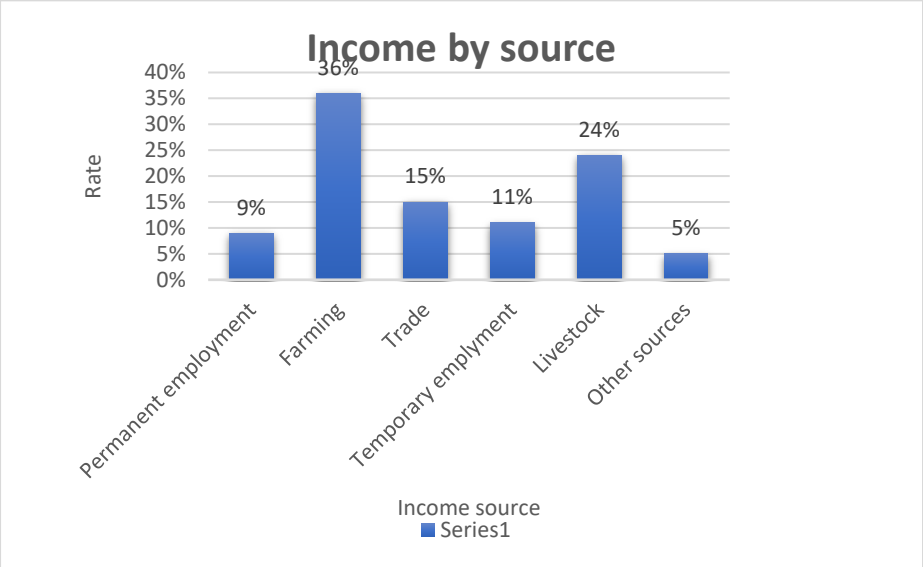

Figure 1.4. Household income by source

1.3. Landholding and agricultural production

Land ownership plays a crucial role in agricultural activity. Among the surveyed farmers, 58.49% owned their land, 15.09% leased land, 12.26% rented it out, and 14.15% shared farmland for cultivation. Data collected also included details on agricultural production, such as the most commonly planted crops, the allocation of irrigated and rainfed areas (ha) to each crop, and the yield in kilograms obtained from each crop.

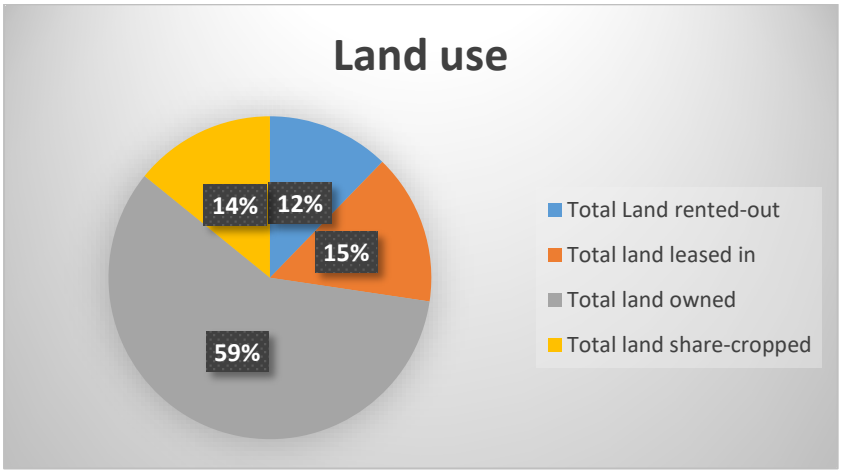

Figure 1.5. Land use by type of holding.

The total average size of land holdings is around 32.66 ha (of which 28.40 ha is cultivated and 4.25 ha lies fallow). Most of the land cultivated by the household (92%) is rainfed (average of 30.12ha), with irrigated land (average of 2.6ha) accounting for only a small proportion of the total (8%).

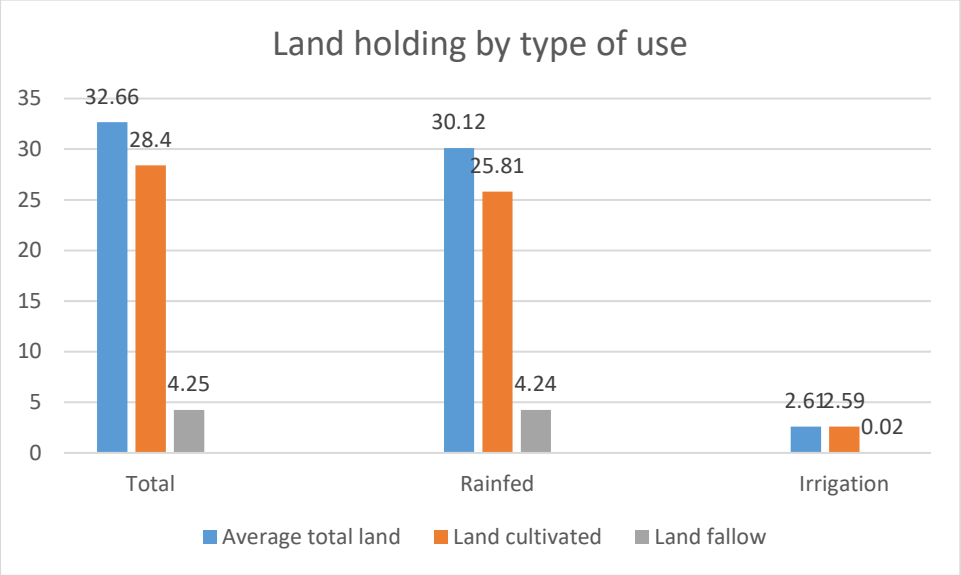

Figure 1.6. Landholding by the type of use

Approximately 59% of farmers reported their soil as clay, with 91% considering soil fertility average and 9% rating it as good. However, 19% felt soil fertility was very low. Among cultivated crops, maize, cassava, and groundnut were prioritized as staple foods, with maize dominating the production portfolio—grown by 100% of households with an average yield of 600 kg per household. Groundnuts were grown by 88% of respondents, mung beans by 67%, and cassava by 50%, with average yields of 415 kg, 167 kg, and 455 kg, respectively. Maize and cassava were the most produced and consumed crops, followed by groundnuts and mung beans. However, post-harvest losses were highest in maize, groundnut, and cassava yields.

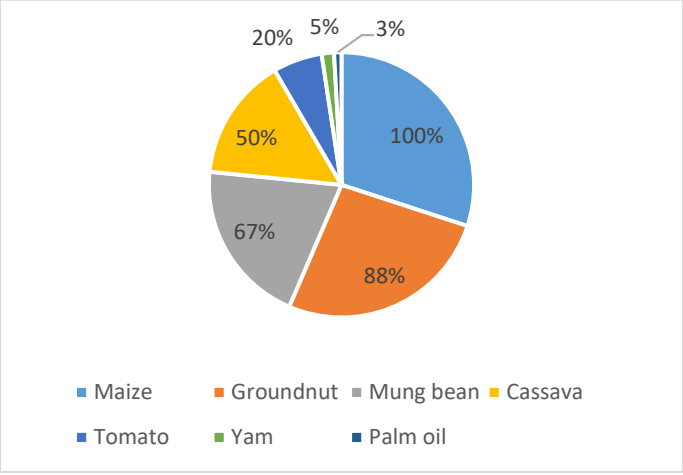

Figure 1.7. Crop cultivated by the respondents.

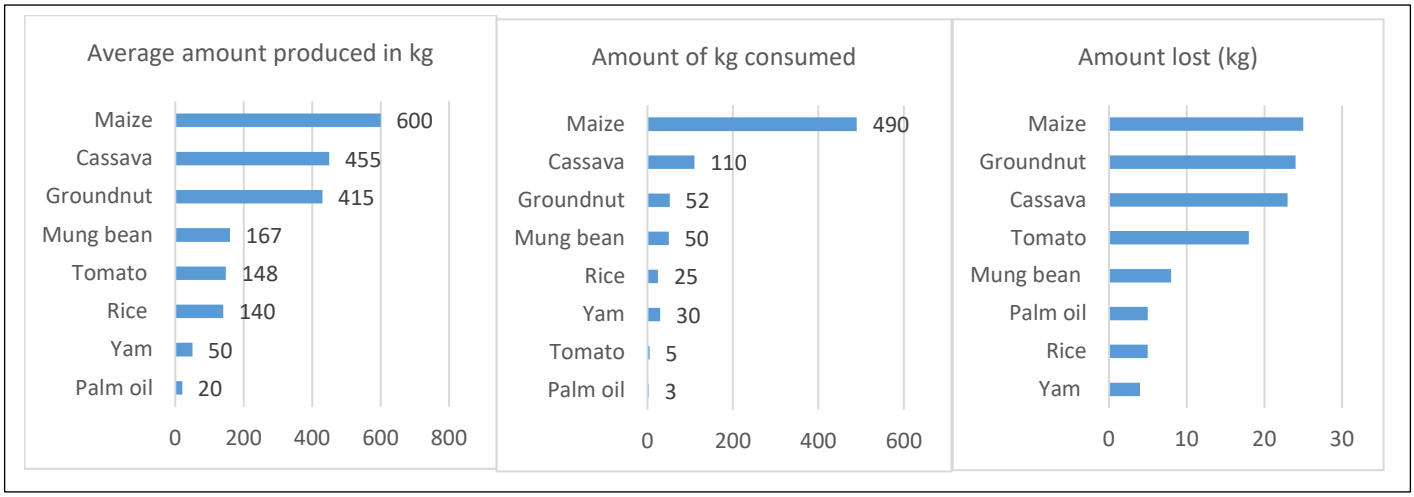

Figure 1.8. Quantity of crops produced, consumed, and lost

The data reveals that approximately 36% of cultivated land is dedicated to maize production, 13% to groundnuts, and 10% to cassava. While these three crops occupy the majority of the cultivated land, yield data indicates that tomatoes and rice are more productive per unit of land, suggesting higher efficiency for these crops in the surveyed areas.

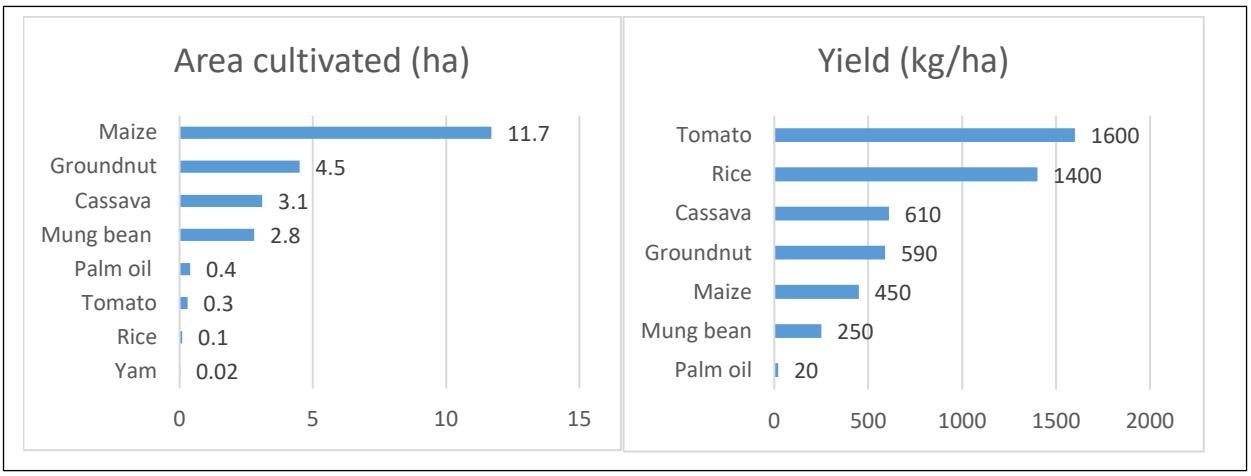

Figure 1.9. Areas allocated to crop production and yield.

1.4. Salinity coping strategies

To address natural disasters and soil salinity issues, 69% of households used crop diversification and 26% practiced crop rotation, while fewer adopted methods such as soil amendments, improved irrigation, or deep tillage (each under 5%). About 75% of households reported these interventions as

effective, resulting in a 70-80% yield increase. However, only 17% of respondents had received training on salinity management, indicating a critical need for enhanced capacity-building initiatives.

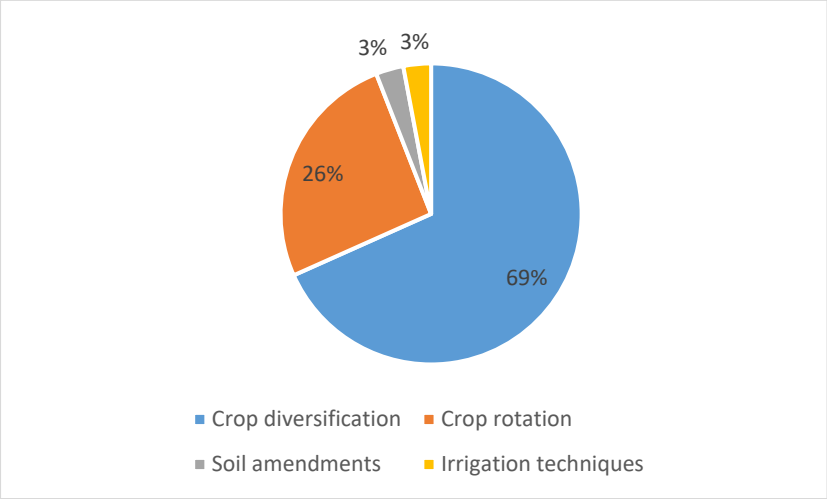

Figure 1.11. Cropping strategies adopted by farmers to cope with natural disaster impacts

Conclusion Togo: A baseline survey in the Assahoun district of Togo involved 64 farmers, averaging 45 years of age, cultivating an average land size of 32.66 hectares, with 56.9% owning their land. 91% of respondents reported no membership in cooperatives. Farming was the primary income source, with maize cultivated by 100% of respondents on 36% of the land, followed by groundnut (88% of respondents, 13% of land) and cassava (50% of respondents, 10% of land). Soil salinity and natural disasters caused yield losses of 10–50%, prompting farmers to adopt coping strategies like crop diversification (69%) and soil rotation (26%), increasing yields by up to 80%, though 83% lacked training in salinity management. Despite good access to markets and social facilities, farmers require improved extension services, agricultural technologies, cooperative support, and credit to address climate challenges, boost productivity, and achieve food security, aligning with the RESADE project objectives.

II. Country Liberia

2.1. Country profile

Liberia is in West Africa with an area of 111,369 square kilometers and a population of 4.97 million (2019 World Bank estimate). As per the World Bank estimate in 2016, nearly half of the Liberian population lived below the poverty line. The agriculture, forestry, fishing, and hunting sector is the mainstay of the Liberian economy, contributing 70.3% of real GDP in 2017 (Baffoe, 2018). The majority of the population relies on agriculture for food security and livelihood. Hence, development in the

agriculture sector holds the key to breaking the poverty trap and food security. Rubber, cocoa, and crude palm oil are the major agricultural commodities in the Liberian agricultural economic sector.

2.2. Socioeconomic and demographic characteristics

The baseline survey in Liberia was conducted in District No. 1 covered four regions, including Grand Bassa County, Lower Bassa, Lower Bassa County, and Lower Grand Bassa, with 64 household surveys conducted across five regions and six villages. Participants included male and female household members, mostly household heads, with women comprising 56.25% and men 43.75% of respondents. The average respondent age was 37 years. Among household heads, 69% were male (91% married, average age 43), and 31% were female (50% married, average age 37). About 50% of household heads were literate, while 42% were illiterate.

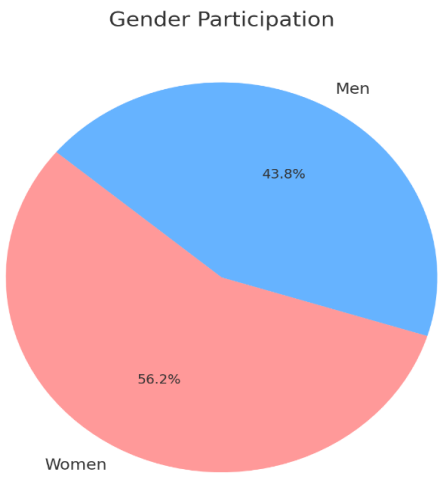

Figure 2.1. Gender distribution

About 87% of the households indicated no access or no memberships to organizations or farmer cooperatives and 12.5% indicated that they are members of different farmer organizations/cooperatives.

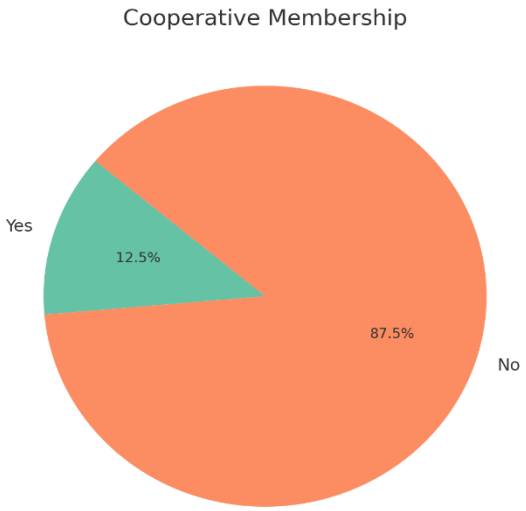

Figure 2.2. Cooperative membership

The average household income in the sample was approximately 131,000 Liberian dollars, with about two-thirds earned by men and the remainder by women or jointly by male and female household members. Farming was the primary income source, contributing 33%, followed by permanent employment (27%) and trade (21%). Aid represented a significantly smaller portion of household income.

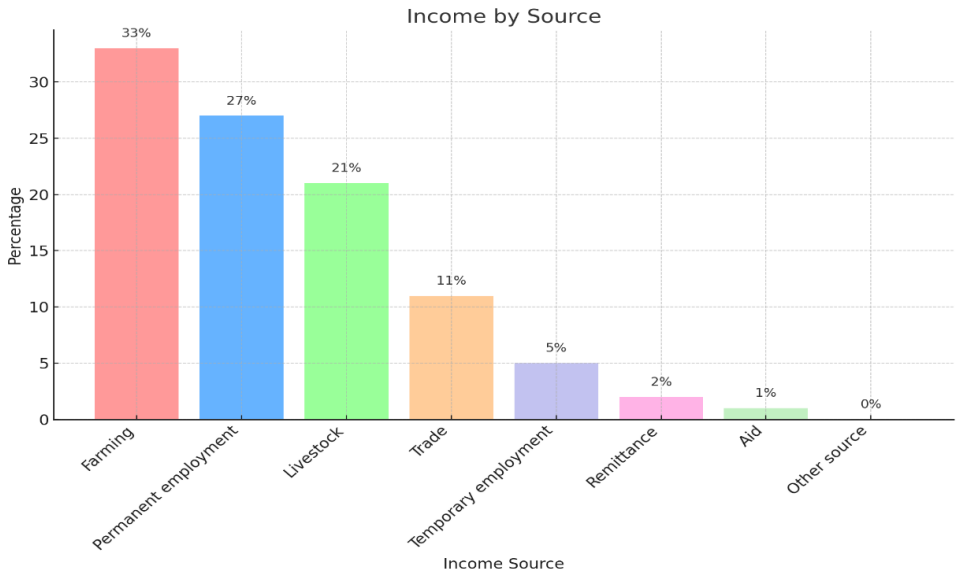

Figure 2.3. Income of respondents by source

2.3. Landholding and agricultural production

The average size of the total land holding (including owned, leased in, and/or sharecropped) is about 6.91 hectares, out of which 1.63 ha is cultivated and 5.28 hectares is left fallow. All the land operated

by the household was reported to be rainfed, and no irrigated land was reported to be owned or leased by the households.

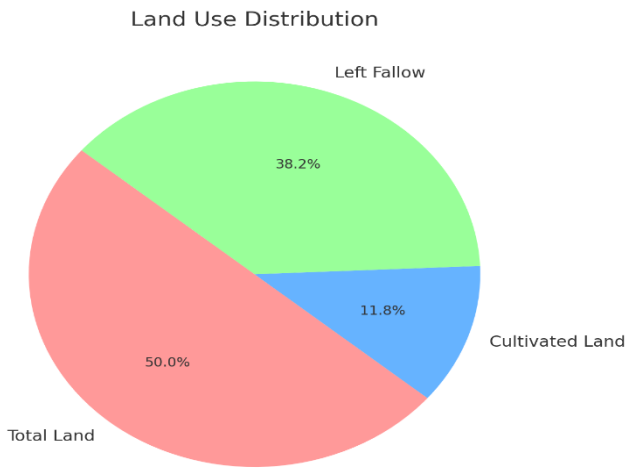

Figure 2.4. Land use distribution

About 80% of the soils were sandy, with 80% of households rating soil fertility as average, below "good" on the survey scale. Meanwhile, 17% rated fertility as "good," and 3.1% as poor. Cassava, maize, rice, and some vegetables and fruits like pepper, watermelon, and plantain were the main crops cultivated. Cassava dominated, grown by 90% of households with an average annual yield of 1,240 kg. Maize and rice followed, grown by 28% and 26% of households, with average yields of 102 kg and 380 kg, respectively. Most households relied on monocropping, focusing on one of the three main crops.

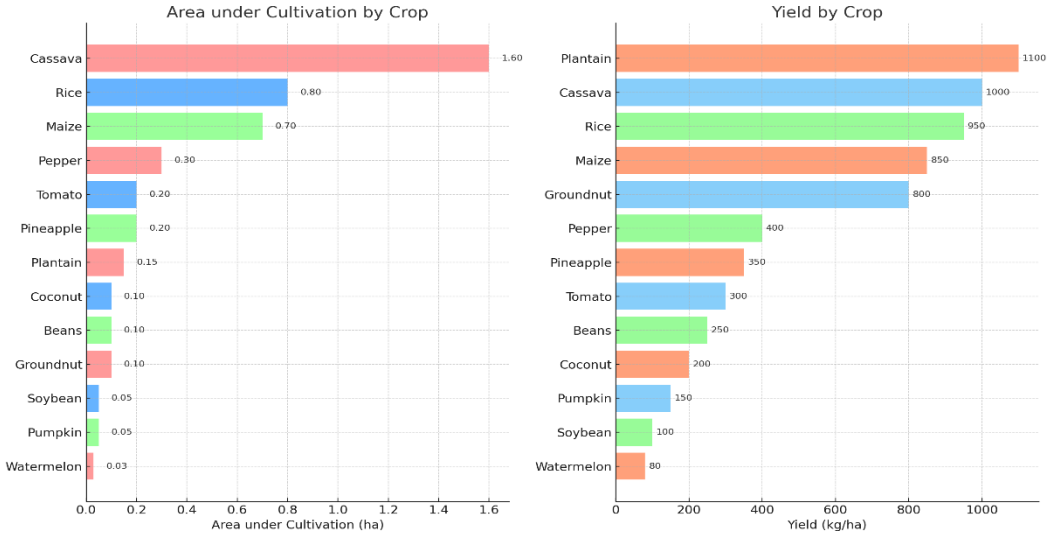

Figure 2.5. The area occupied by crops and yields

Nearly half of the rice and about 16% of the cassava produced on the farm is consumed by the households. The data confirm post-harvest losses. On average, about 30 kg of cassava appears to be

lost in the post-harvest stages (this is equivalent to about 2.4% of the total amount produced). The losses in maize and rice are not as significant.

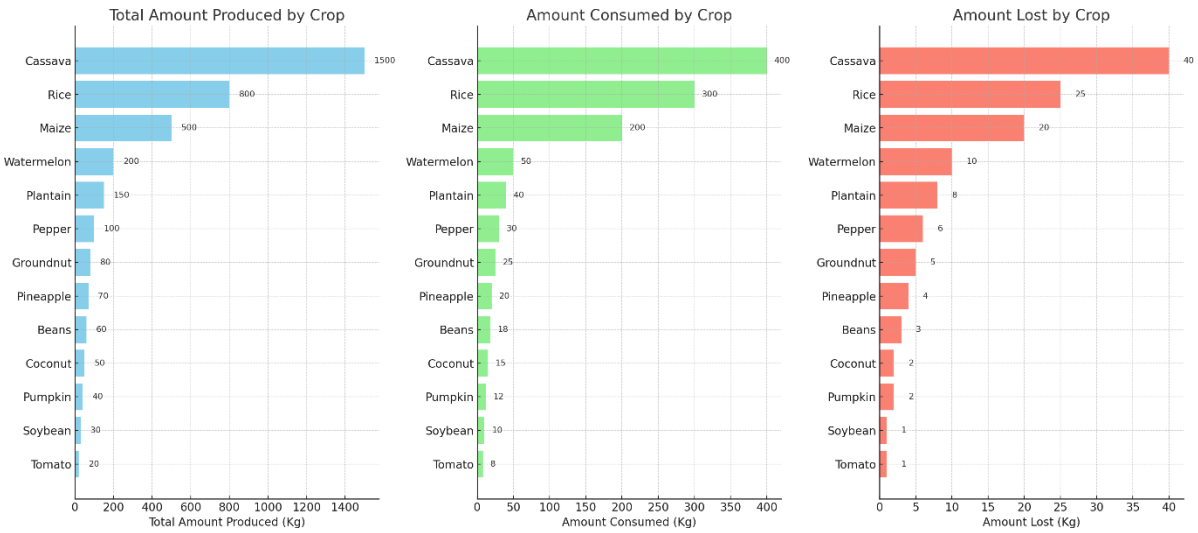

Figure 2.6. Quantities produced, consumed and lost

Cassava appears to be a market or cash crop as a major portion (about 80) of the total quantity produced is sold to the market. Similarly, the majority of the vegetables and fruits produced by the households are sold to the market, whereas rice and maize appear to be produced mainly for household consumption with small surpluses being sold to the market.

2.4. Salinity coping strategies

Households employed various strategies to manage soil salinity, including deep ploughing, crop diversification, crop rotation, soil amendment, and drainage. Crop diversification was the most widely adopted, reported by 52% of households, followed by crop rotation and soil amendment. About 75%

of respondents indicated that these interventions were effective, leading to a 70-80% increase in yield.

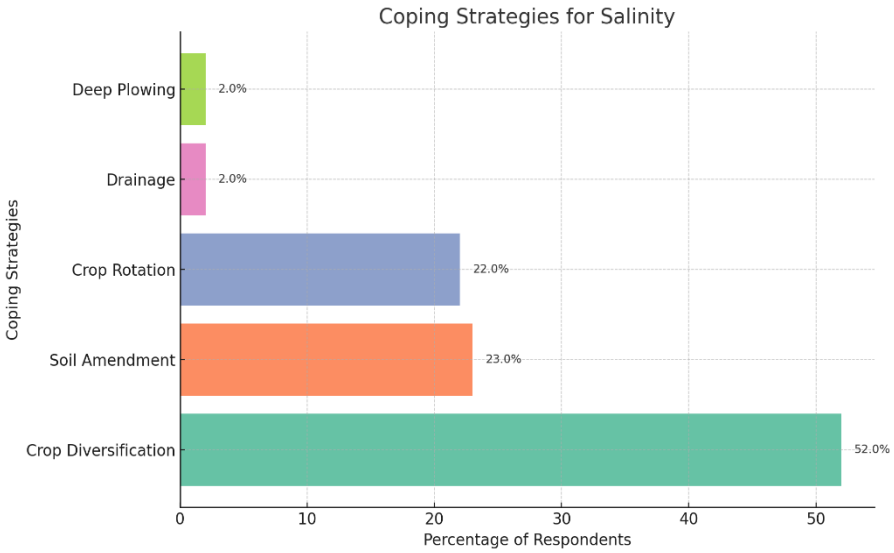

Figure 2.7. Coping strategies

Conclusion Liberia: The baseline survey for Liberia includes 56.25% women and 43.75%) of men farmers participation. On average, farmers operated with 6.91 hectares of land, of which 1.63 hectares were cultivated, and 5.28 hectares were left fallow, indicating underutilization of available land resources. Cooperative membership was low, with only 12.5% of respondents being members, reflecting limited access to collective agricultural support systems. Key crops included cassava, rice, and maize, with cassava leading in production and consumption. To address salinity issues, farmers predominantly used crop diversification (52%) and soil amendment (23%) as coping strategies, with interventions yielding varied success, including a notable 70% yield improvement reported by 40.63% of respondents, highlighting the importance of enhanced land management practices, cooperative support, and training programs to boost agricultural resilience and productivity.

III. Country: Sierra Leone

3.1. Country profile

Sierra Leone, located on the southwest coast of West Africa with a total area of 71,740 sq. km, had a population of 7.82 million in 2019 and an economic growth rate of 5.51%. Agriculture, contributing about 60% to GDP and employing 60% of the population, plays a vital role in the economy. Despite steady economic growth, poverty remains severe, with over half the population living below the poverty line as of 2011. Agriculture is expected to drive medium-term growth, averaging 4.7%, supported by increased foreign investments in crop production and fisheries. Given its significance in GDP and rural employment, agriculture is critical for poverty reduction and household food security, particularly in rural areas where most of the poor reside.

3.2. Socioeconomic and demographic characteristics

A total of 82 surveys were conducted in the northern region of Kambia district of Sierra Leone. About 68% of the survey respondents in the sample were male and 32% were female. Though the average age of the respondents slightly varies by gender, the overall average age of the respondents was estimated to be 36.8 years.

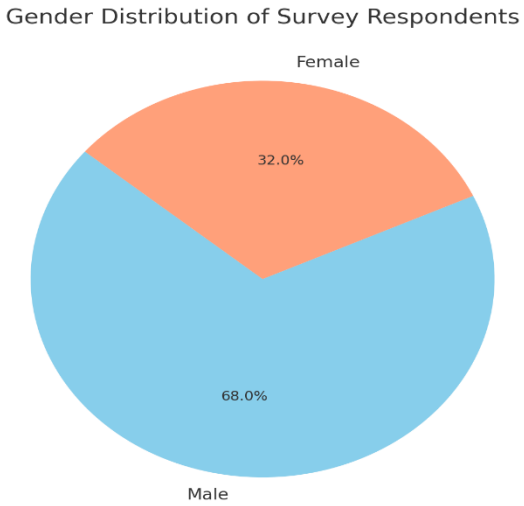

Figure 3.1. Gender distribution

About 73% of the households indicated no access or no memberships of farmer organizations and only a little over one-fourth (26.8%) of the households in the sample indicated that they are members of different farmer organizations.

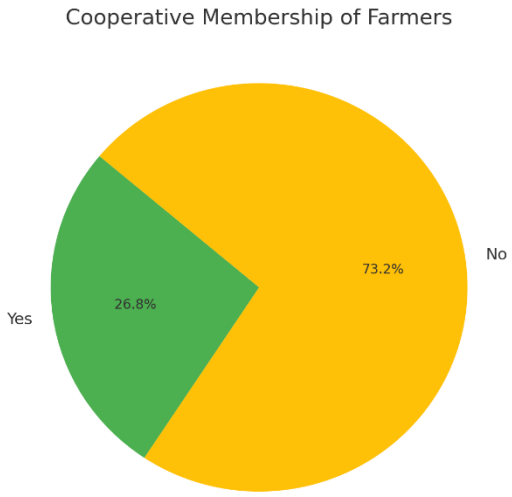

Figure 3.2. Farmers cooperative membership

In the surveyed households, 57 out of 82 were male-headed, and 9 were female-headed. About 26% of household heads are literate, 37% are illiterate, and data for 38% were missing. Among literate heads, 15% are primary or secondary school graduates, while 10% hold high school or university diplomas. The average household income is approximately 4.8 million Sierra Leonean Leone ($4,900), with women contributing more than men. Farming is the primary income source, contributing 40%, followed by trade (25%), livestock (15%), and remittances (13%).

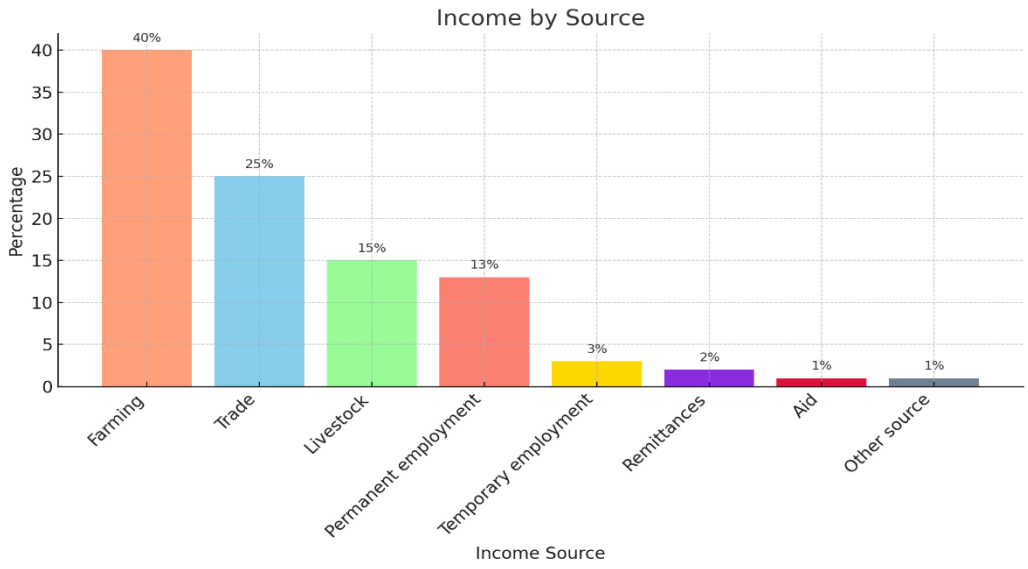

Figure 3.3. Income of respondent by source

3.3. Landholding in agricultural production

Over half of the agricultural land is owned by households (51.7%), whereas nearly the other half is leased by households (47.5%).

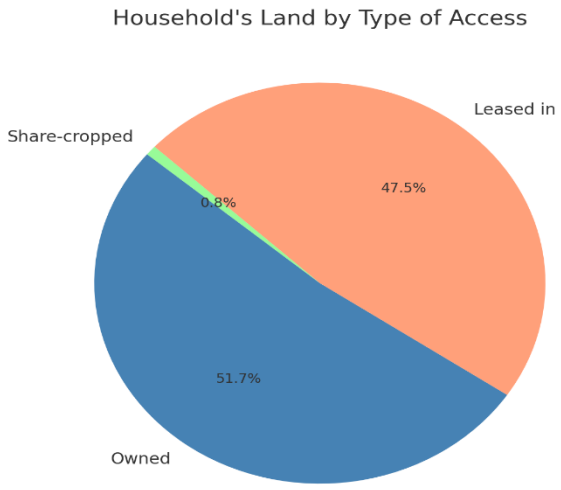

Figure 3.4. Household's land by type of access

The average landholding (including both household's own and leased land) is estimated to be 2.57 hectares, out of which about 91% is cultivated and the rest is left fallow. Meanwhile, the majority (85%) of the land that households own or sharecrop is rainfed; irrigated land accounts for about 13% of the total land.

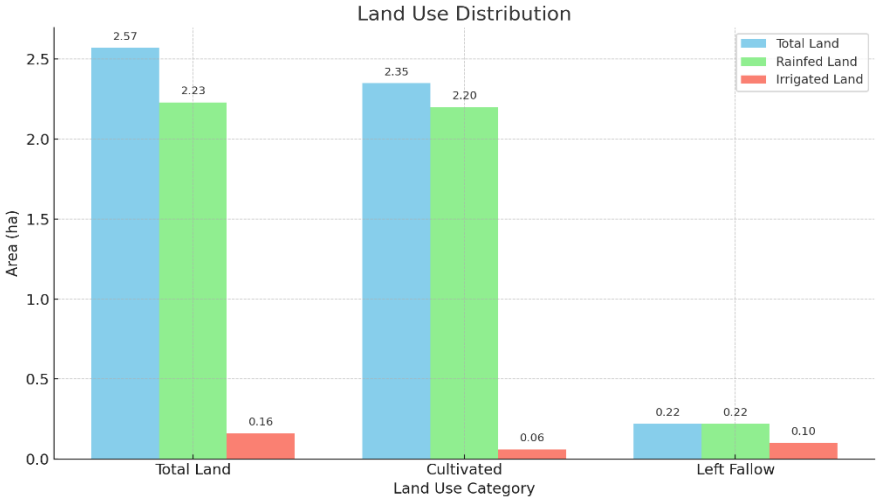

Figure 3.5. Land use distribution

Around 70% of households reported their soil as clay, 30% as loam, and none as sandy. About 70% rated their land productivity as average or good, 20% reported high productivity, and less than 2% indicated very poor productivity. On average, 1.92 hectares of the 2.57-hectare landholding (75%) is used for rice cultivation, with the remainder allocated to cassava and pearl millet. Despite rice occupying most of the land, yield data indicates higher per-unit productivity for pearl millet, suggesting inefficiency in allocating land resources to lower-yielding crops.

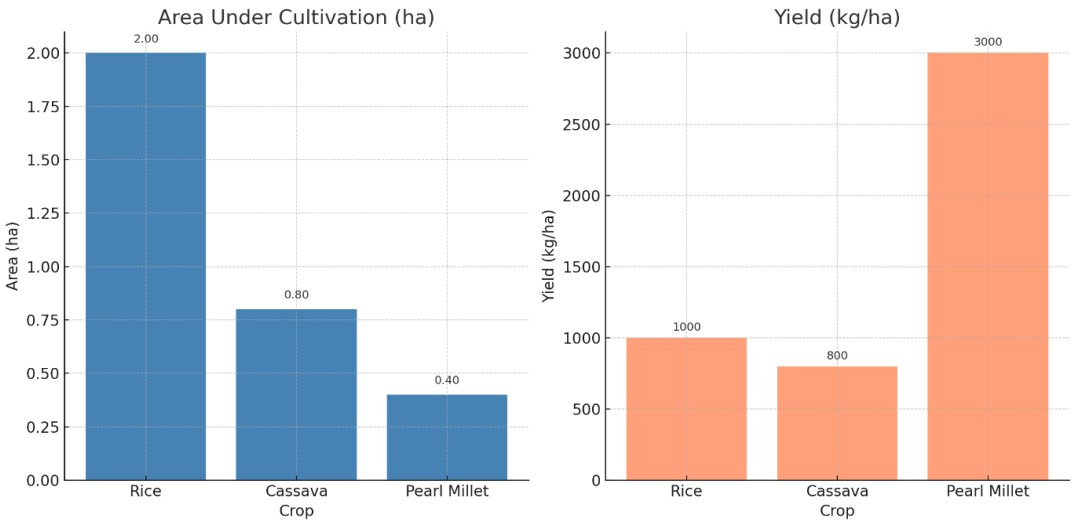

Figure 3.6. The area under cultivation and yield harvested

Rice dominates the household crop production portfolio, as nearly 99% of the households in the sample indicated that they produce rice, whereas 13% of the households reported growing cassava. Other crops are not quite common among the sample households. Rice is produced in larger quantities, followed by pearl millet and cassava.

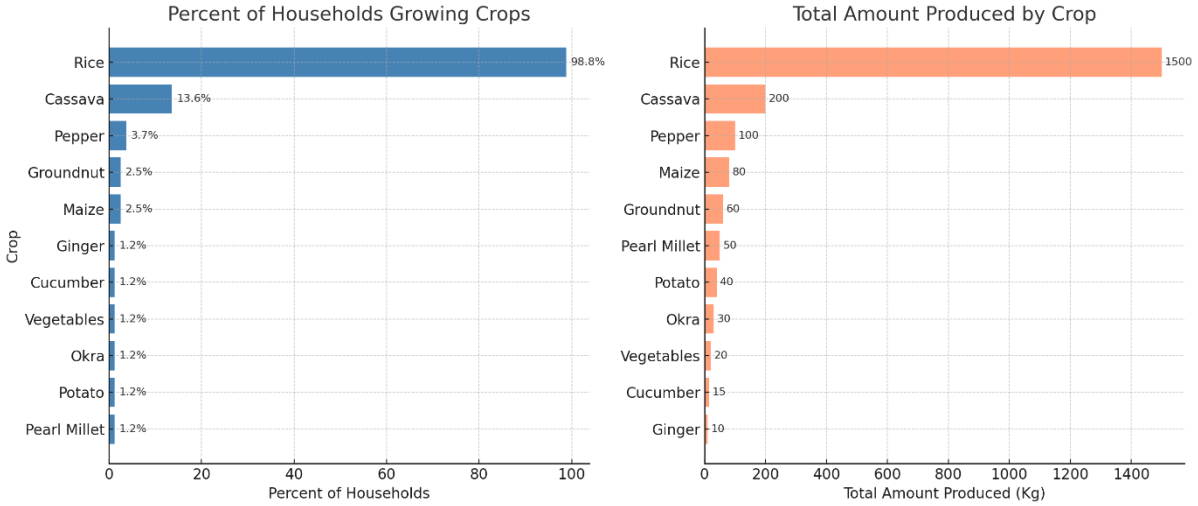

Figure 3.7. Percent of households and quantities of production

The majority of the rice produced by the household is consumed by the households throughout the years. This implies rice is a crucial part of household consumption. Losses were also reported, possibly at the post-harvest stage, however, these figures are not as significant given the large quantities that are produced by the households. While two-thirds of the rice produced by the households is consumed throughout the year, nearly one-third of the rice is sold to the market

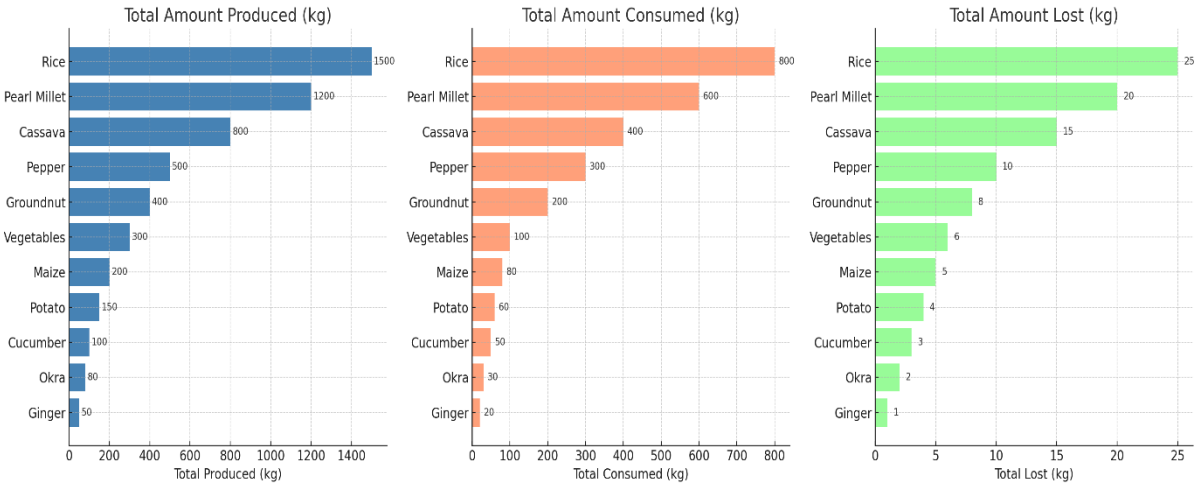

Figure 3.8. Production quantities, consumption, and losses of crops

3.4. Salinity coping strategies

Households executed several intervention strategies aiming to manage salinity including deep ploughing, crop diversification, crop rotation, soil amendment, drainage, and other intervention strategies.

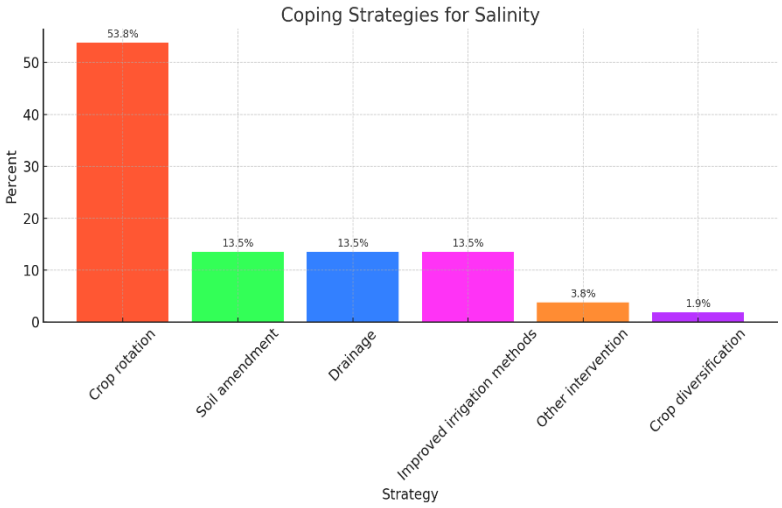

Figure 3.9. Salinity coping strategies

Conclusion Sierra Leone: The baseline survey in Sierra Leone reveals that most respondents are male (68%) with an average age of 36.8 years, and farming is predominantly rainfed. Rice is the key crop for cultivation, consumption, and income, though significant post-harvest losses occur. Coping strategies like crop rotation (53.8%) and soil amendments are used, but their effectiveness varies, and only 26.8% of households belong to farmer cooperatives. Strengthening cooperative membership, access to training, and improved agricultural practices is crucial to addressing challenges like soil salinity, yield losses, and soil fertility issues.

IV. Country: Mozambique

4.1. Country profile

Mozambique, located in Southern Africa, covers an area of 801,590 sq. km and borders the Indian Ocean, Tanzania, Malawi, Zambia, Zimbabwe, Eswatini, and South Africa. Unlike Liberia and Sierra Leone, Mozambique has a larger population but slower economic growth, with a lower GDP per capita. As of 2014, nearly half the population lived below the poverty line, and significant improvements since then are unlikely due to sluggish economic growth. Over 60% of the country's land is used for agriculture, highlighting its critical role in the economy and rural livelihoods. Agriculture contributes

about a quarter of Mozambique's GDP and involves approximately 80% of households, making it a key driver of growth, food security, and poverty reduction.

4.2. Socioeconomic and demographic characteristics

A total of 51 surveys in eight villages were conducted in two regions of the Moamba district of Mozambique. About 37 % of the survey respondents were male and 57% were female. Though the average age of the respondent slightly varies by gender, the overall average age of the respondent was estimated to be 49 years with the male heads being older by about 2 years on average.

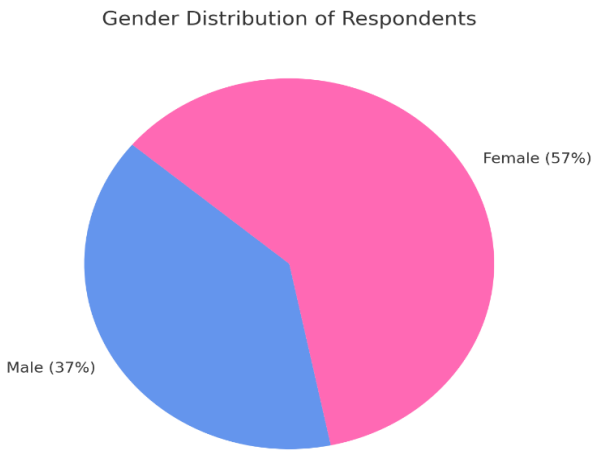

Figure 4.1. Gender distribution

About 32% of the respondents in the sample indicated no access or no memberships of farmers' organizations and about 60% of the households in the sample indicated that they are members of different farmer organizations.

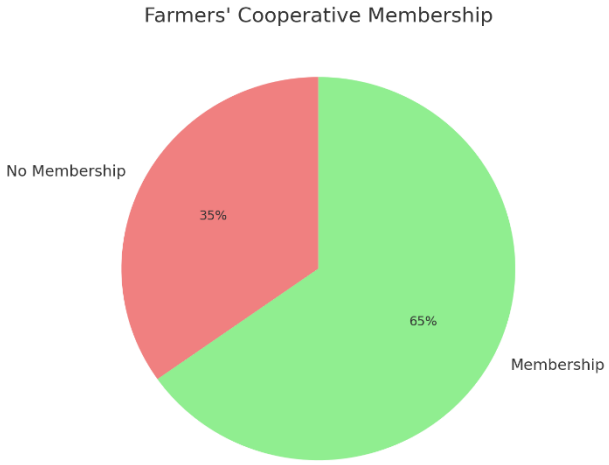

Figure 4.2. Farmers cooperative membership

Nearly two-thirds of households in Mozambique are male-headed, while one-third are female-headed. The average age of household heads is approximately 53 years, with male heads being slightly older. About 20% of heads are married, 32% engaged, and 22% widowed. Over half of the household heads are literate, while about 40% are illiterate.

The average household income is approximately 34,000 Mozambican Meticals ($483 USD), with significant contributions from both genders. Farming is the primary income source, contributing 50% of household income, followed by livestock (14%), temporary employment (13%), and other sources (10%). Aid constitutes a negligible 3% of household income.

Households spend about 63% of their income on food, with the remaining 37% allocated to non-food items.

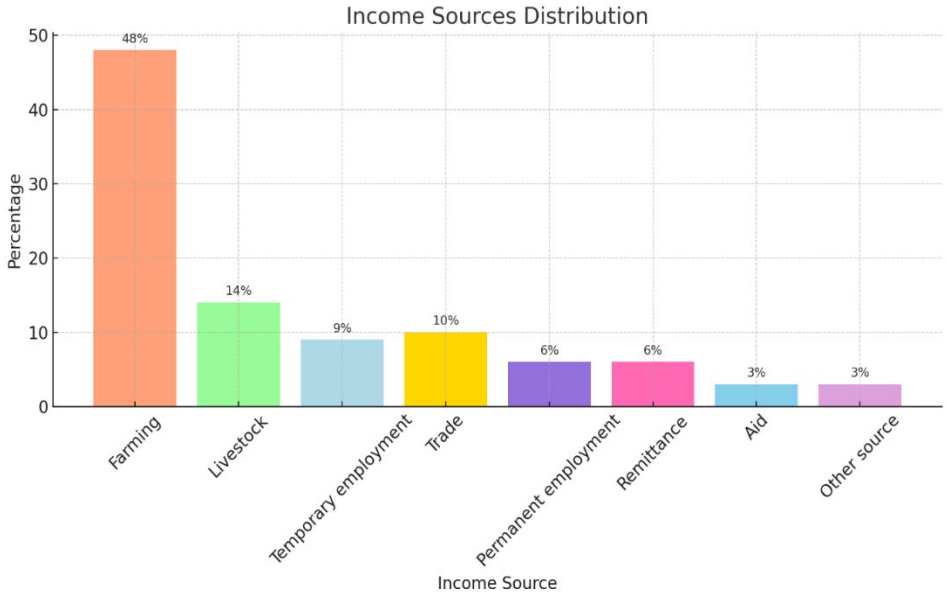

Figure 4.3. Household income by sources

4.3. Landholding and agricultural production

As for the agricultural holdings, over half (about 53%) of the agricultural land is owned by the households, whereas nearly another 46% is leased in by the households. Sharecropping is not quite common among the sample as only about 1.5% of the households have reportedly done sharecropping.

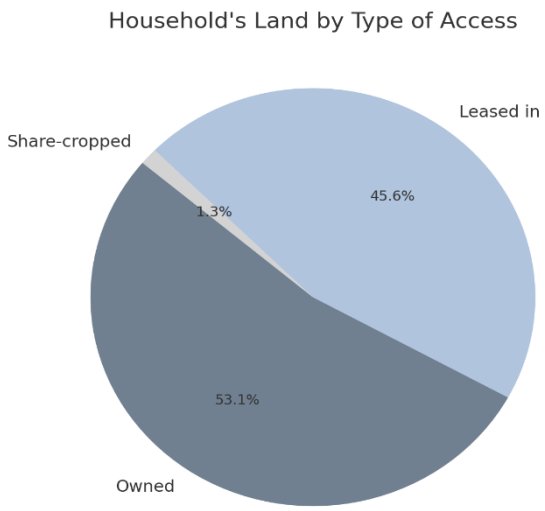

Figure 4.4. Household landholding by type of access

The average landholding (including household's own, sharecropped, and leased land) is estimated to be 3.67 hectares, out of which about 65 % is cultivated and the rest is left fallow. Meanwhile, over half of the total land (57%) is irrigated, whereas rainfed land accounts for about 43 % of the total land. The graph below illustrates the total land owned by households by use (in cultivation vs fallow) and type of land (i.e. irrigated vs rainfed). About 92% of the households have reported their soil type is clay, 2% indicated the soil type to be loam, whereas nearly 4% of the households indicated the land type to be sandy. 88% of the households rated the productivity of the land as average and good, whereas about 10 reported high productivity potential.

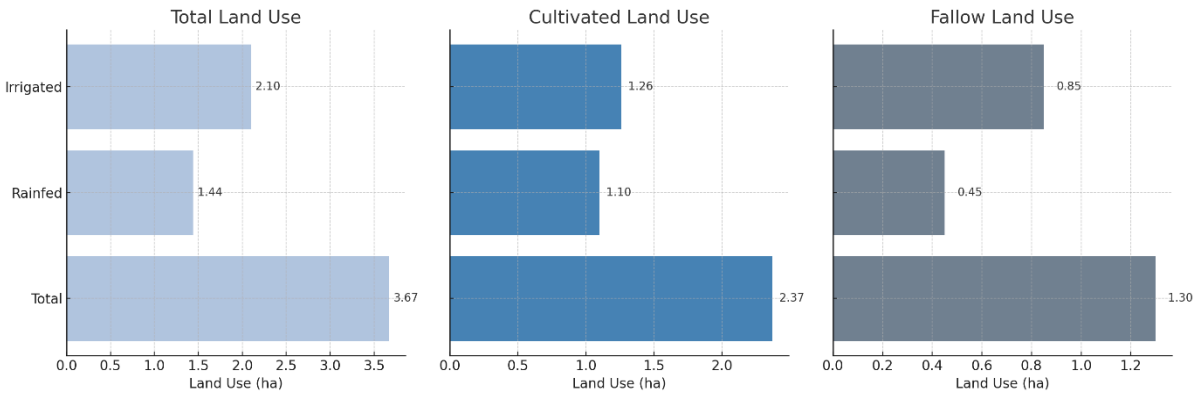

Figure 4.5. Landholding by type of land and use

Most of the households' land is allocated to maize and vegetable production. Nearly 1.25 hectares out of the estimated average landholding of 3.67 (presented earlier) is occupied by maize alone. This is equivalent to about 35% of the total land operated by households. The majority of the remaining land is allocated to vegetables including cabbage, tomato beans, pepper, onion, and potatoes, and other crops such as groundnut, and rubber. While the majority of the land is allocated to maize, the yield data show higher per-unit production for potatoes. This may imply production inefficiency among the sample households simply due to the misallocation of farmland resources (e.g. majority of the land is allocated to low-yielding crops such as maize).

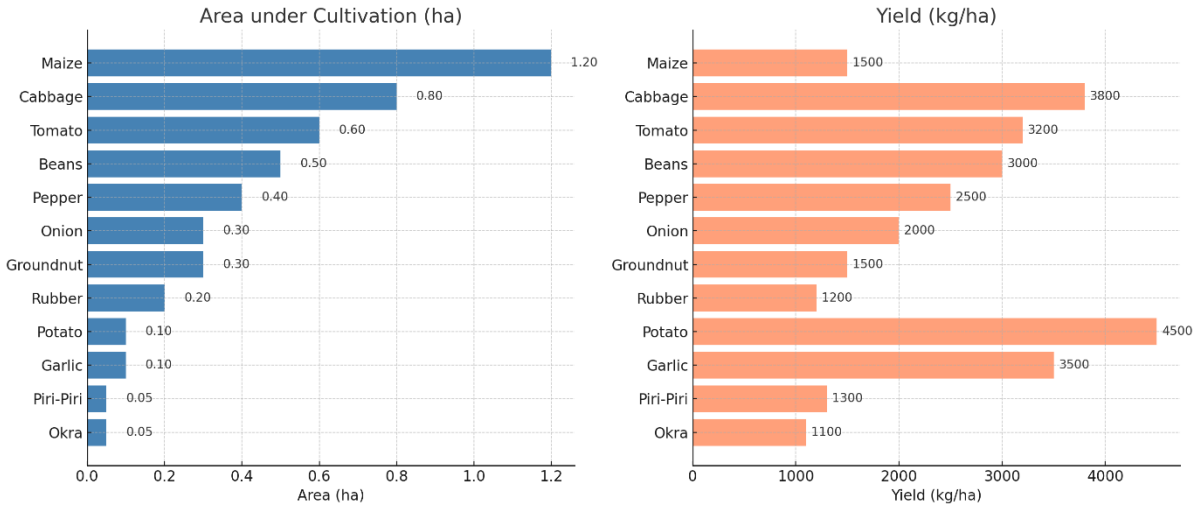

Figure 5.6. Area by crop and yields

Maize dominates the household production portfolio, as nearly 90% of the respondents in the sample indicated that they produce maize, whereas less than 40 of the households reported growing other crops. While nearly two-thirds of the households reported growing onion, cabbage, and paper, other crops are not quite common among the sample households. Maize is produced in larger quantities, followed by cabbage, rubber, and tomato.

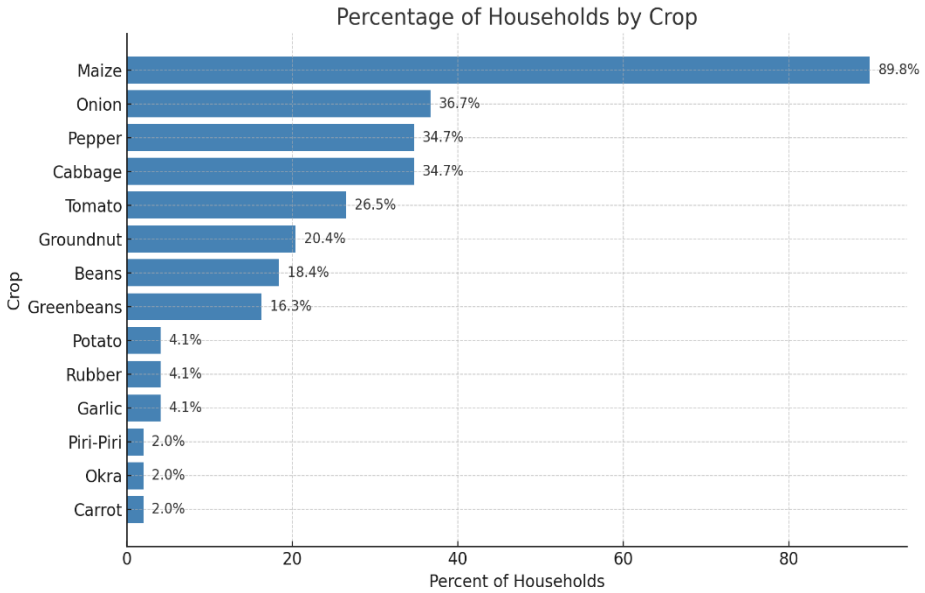

Figure 4.7. Percentage of respondents by crop cultivated

A small proportion of the total production is consumed by the households. Among other crops, maize is the most crucial part of the household consumption. Losses were also reported, possibly at the post-harvest stage, however, these figures are not as significant given the large quantities that are produced by the households. While small quantities of the crops produced are consumed by the households, nearly 90% of the output is sold to the market for some crops.

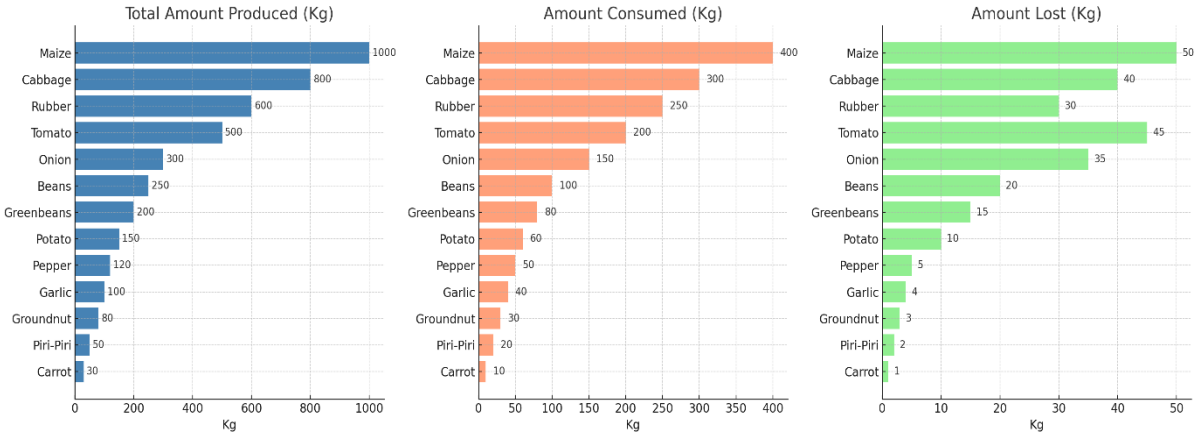

Figure 4.8. Quantity of production, consumption, and loses

4.4. Salinity coping strategies

Households executed different intervention strategies aiming to manage losses due to salinity including deep ploughing, crop diversification, crop rotation, soil amendment, drainage, and other intervention strategies. Based on the responses, crop rotation, and soil amendments are by far the most famous options followed by improved irrigation methods, crop diversifications, and drainage.

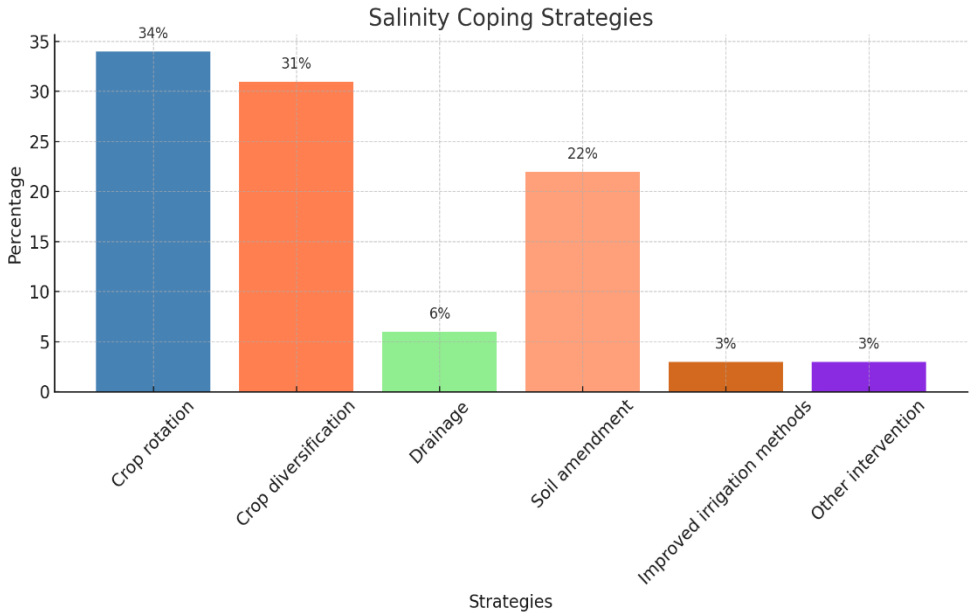

Figure 4.9. Salinity coping strategies

Conclusion Mozambique: The baseline survey conducted in Mozambique provided valuable insights into agricultural practices, demographics, and challenges faced by households. Women accounted for 57% of the respondents, with an average respondent age of 49 years. Maize emerged as the most cultivated crop, while potatoes had the highest yield per hectare. Approximately 60% of households reported being members of farmer cooperatives, which played a crucial role in providing access to agricultural resources and support, while 32% indicated no membership. To enhance agricultural productivity and resilience, addressing challenges like soil salinity and improving cooperative engagement through capacity building, improved irrigation systems, and crop diversification is essential, aligning with sustainable development goals.

V. Country: Botswana

5.1. Country Profile

Botswana, a landlocked southern African country, spans 581,730 sq km with a population of approximately 2.6 million as of 2022, and its economy is heavily reliant on diamond mining. Despite steady economic growth in the past, challenges such as high unemployment (25.4% in 2022), inequality (Gini index of 53.3), and declining agricultural productivity due to drought and poor soils persist. Agriculture contributes 2% to GDP, employing 20.4% of the workforce, with maize, sorghum, millet, and cattle farming dominating the sector, but reliance on rain-fed systems and limited technology use hinder yields, increasing dependence on imports. Climate change exacerbates these issues, making adaptation strategies like efficient water management, crop diversification, and

drought-resistant technologies critical for improving food security and sustainability. Projects like RESADE, along with government support, aim to enhance smallholder productivity and resilience through modern technologies and community involvement.

5.2. Household Demography and Socioeconomic Profile

The data collection has included 152 farmers in total in the Kweneng district and its sub-district (Lentsweletau, Letlhakeng, and Moshupa) of Botswana. Results show that 50.66% (77 respondents) were men farmers and 48.68% (74 respondents) were women farmers with 1 missing information on gender between 25 minimum and 86 years old maximum. For both females and males, the average age was approximately 55 years old.

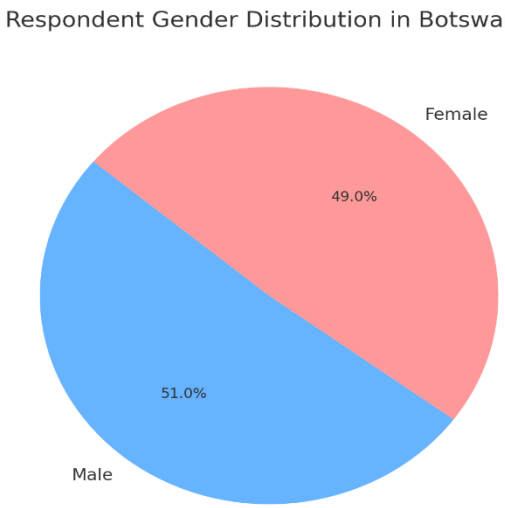

Figure 5.1. Gender distribution

Household sizes in the surveyed population range from 1 to 9 members, with a median of 2 individuals, predominantly aged 15–65 or under 14 years, while the elderly (65+) form the smallest group. About 74% of respondents were household heads, with 44% being male and 29% female. The average age of household heads is 56 years. Most male heads (77%) are married, compared to 12% of female heads. Literacy rates are high, with 74% of respondents and 67% of household heads being literate. Among those with formal education, 21% completed primary school, 29% secondary school, and 11% obtained a bachelor's degree.

Pastoral farming (23.23%) is the primary source of household income, followed by crop production (19.87%) and permanent employment (16.50%). The average household income is 19,321 Botswana Pula (~$1,400), with men contributing more (average 40,200.08) than women (average 28,664). Most income is spent on non-food items (2,047 Pula) rather than food (1,260 Pula), with both genders participating in expenditure decisions.

5.3. Agricultural land holding and production

The baseline survey data revealed that most of the farmers (78.67%) are operating in rainfed farming and both rainfed and irrigation combination (14.67%), while only a small fraction of 6.67% are using only irrigation systems. Also, the data collected show that 80% of the land in which the farmers operate is their possession, while only 18.42% of farmers were using land leased portion and almost 5% land rented. However, the average size of the land held by the farmers is 12.91 hectares in average of which 6.16 hectares are used for crop production, 4.92 ha are undeveloped, and 2.18 hectares are left fallow.

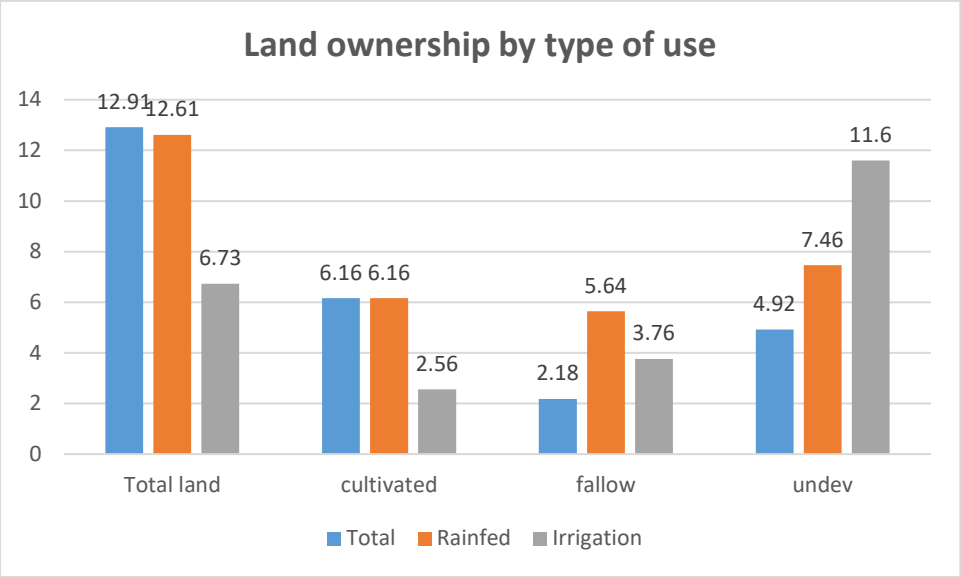

Figure 5.3. Land ownership by type of use

The respondents reported perceptions of soil type and fertility based on crop productivity. About 45% described their soil as sandy, 37% as loam, and 14% as clay. Regarding soil fertility, 41% rated it as average, 32% as good, 12% as poor, and 11% as very good, while only 3% considered their soil very poor in productivity.

Key staple crops in Botswana's Kweneng district are grown within cropping seasons from January to March and October to December. Wheat and sorghum are the most commonly produced crops, cultivated by 25.78% and 20.65% of households, respectively. Other crops include sesame (12%), mung bean (9.16%), and banana (6.52%). However, higher yields were reported for crops such as rice (6,178 kg), onion (5,000 kg), soybean (4,012 kg), cashew nut (3,600 kg), and palm oil (2,333 kg), indicating their potential for significant production.

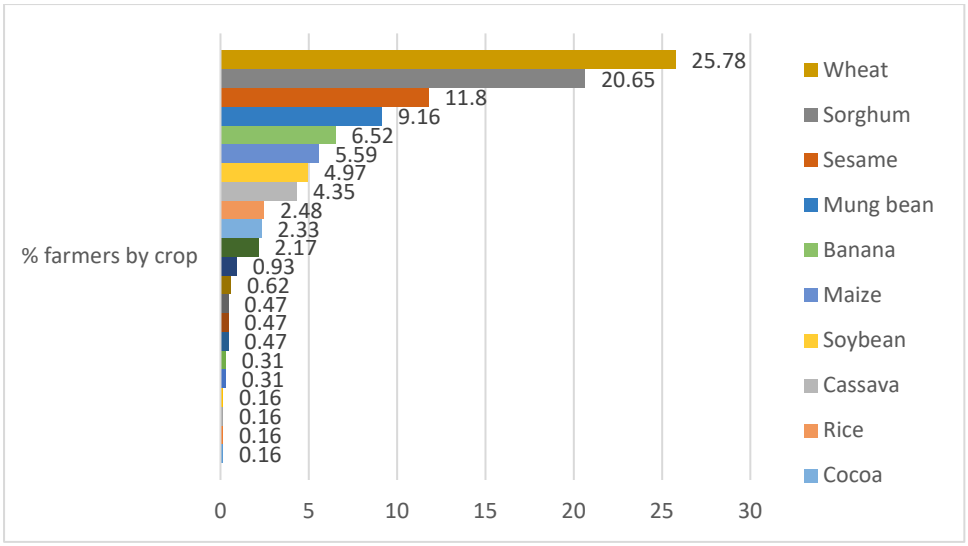

Figure 5.4. Percentage of farmers by crop produced.

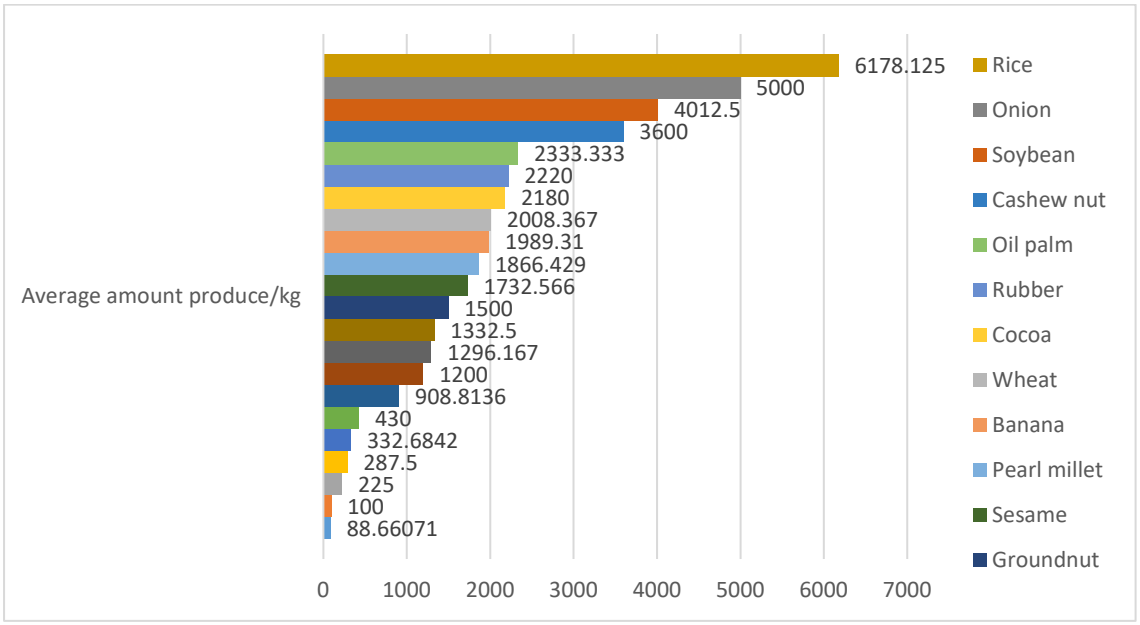

Figure 5.5. The average amount of quantity produces per crop

In Botswana, a significant portion of land is allocated to rainfed crops, with wheat (26%), sorghum (21%), and sesame (12%) being the primary land users. However, crops like rice, onion, and soybean demonstrate higher productivity per unit, highlighting inefficiencies in land use for wheat, sorghum, and sesame. Post-harvest losses are considerable, particularly for wheat (81 kg), sorghum (52 kg), and maize (14 kg) per farm, reducing household consumption and productivity.

The RESADE project aims to address these issues by introducing modern harvesting equipment and storage facilities to minimize losses. Key market crops include wheat, rice, and pearl millet, alongside

cash crops such as coffee, cotton, and cashew nuts, which contribute to household income. Selling prices for wheat, sorghum, and sesame average 71, 46, and 26 Botswana Pula, respectively, influenced by market dynamics.

Diversification and the adoption of high-yield crop varieties under the RESADE project are expected to boost productivity, improve food security, and enhance agricultural sustainability and economic resilience in Botswana.

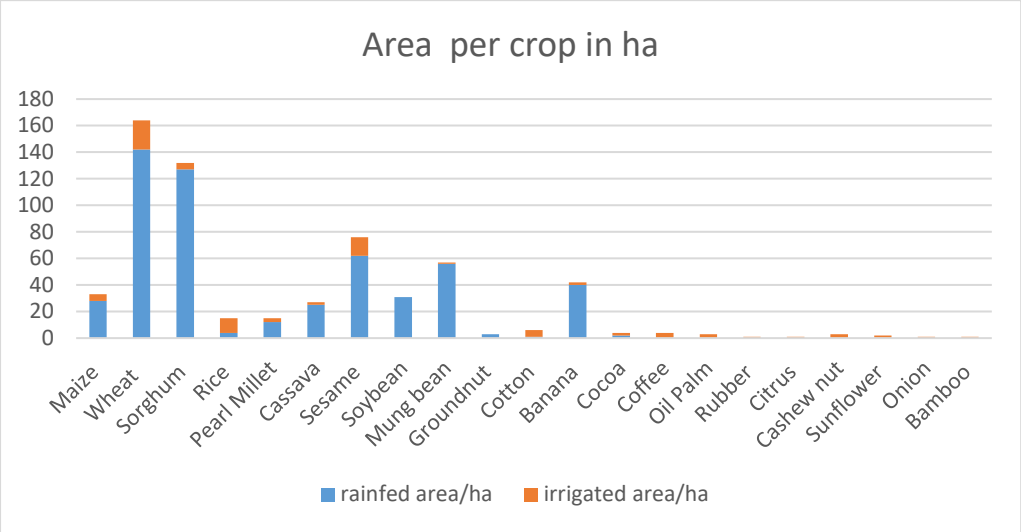

Figure 5.6. Land allocated by crop in hectare

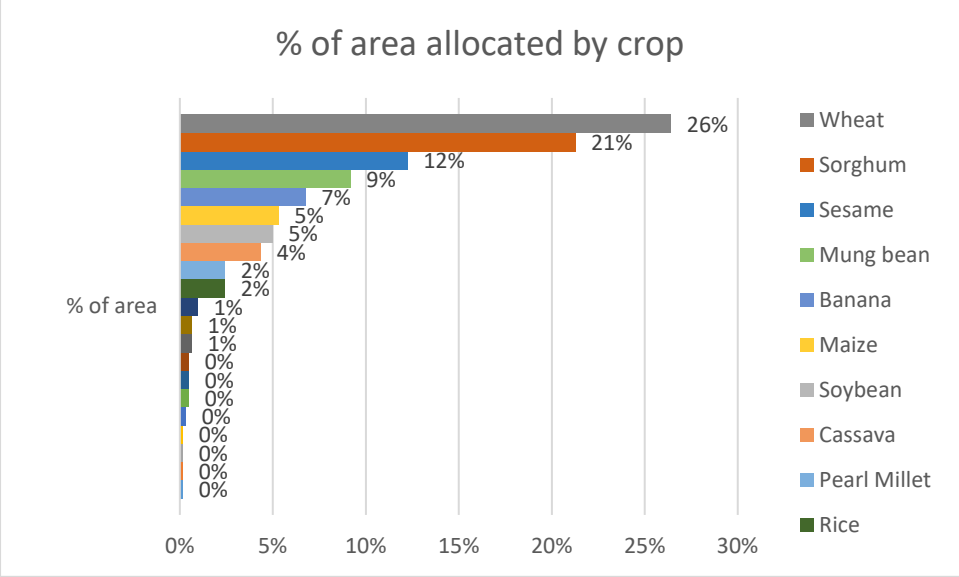

Figure 5.7. Percentage of land allocated by crop

Conclusion Botswana: A baseline survey in Botswana's Kweneng district found that agriculture, primarily rainfed cropping is the main income source, with key crops including wheat (25.78% of

households), sorghum (20.65%), sesame, mung bean, maize, and soybean, cultivated on an average of 6.16 hectares of the 12.91 hectares of land owned per household. Despite significant challenges like soil salinity affecting over half of the respondent's land, low soil fertility, and limited modern technology use, wheat and sorghum remain important, though reliant on rainfed systems. To improve productivity, food security, and resilience, farmers require support in soil salinity management training, modern agricultural technologies, cooperative development, and credit facilities, aligning with the RESADE project objectives.

VI. Country: Gambia

6.1. Country profile

The Gambia, with a population of 2.7 million in 2022, relies heavily on agriculture, forestry, and fishing, contributing 23% to GDP and employing 70% of the workforce. However, agriculture remains underdeveloped, primarily subsistence-based, and rain-fed, facing declining productivity, poor soil fertility, and climate shocks like drought and extreme temperatures. Over 80% of rice, a staple food, is imported, making the country vulnerable to external shocks and causing rural households to face annual food deficits of 4–6 months. The Sudano-Sahelian climate, limited rainfall, and high soil salinity compound these challenges. The RESADE project seeks to address these issues by promoting climate-resilient agricultural technologies to enhance productivity, food security, and rural welfare.

6.2. Demography and socioeconomic characteristics

The baseline survey in The Gambia covered 60 farmers across 10 villages in the Central River Region North and Central River Region, Lower Saloum district. Most respondents (82%) were male with an average age of 52 years, while 18% were female with an average age of 45 years. Only 3% of households were headed by females, with an average age of 65 years, compared to 97% headed by males, averaging 52 years. Nearly 95% of household heads were married, while 3.34% were single.

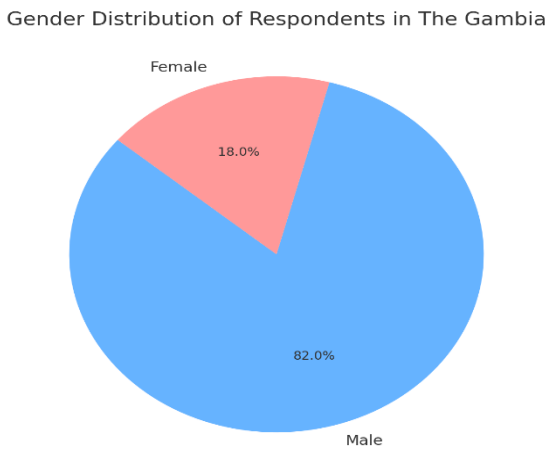

Figure 6.1. Gender distribution

Among the respondents, only 13% affirmed that they are members of different farmer cooperatives, while most of them, about 80% declared no membership to a farm organization/cooperative, highlighting a significant gap in cooperative participation.

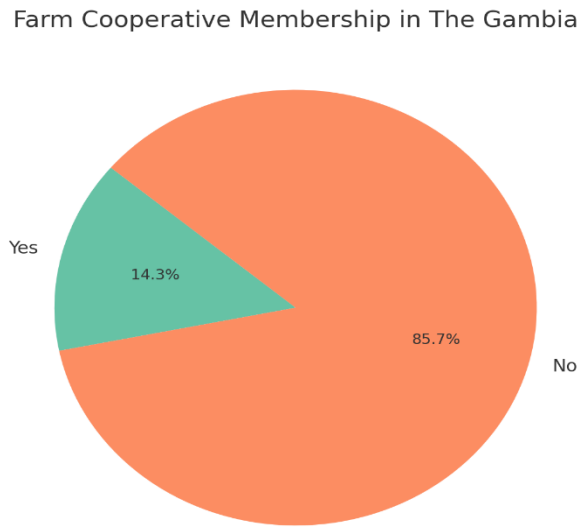

Figure 6.2. Cooperative membership

Households in The Gambia have an average size of 12 members, ranging from 4 to 25. The majority of household members are aged 15 to 65, followed by children aged 14 and below, with individuals aged 65 and over forming the smallest demographic group.

Only 13% of household heads are literate, while 75% are illiterate. Among those with formal education, 7% had completed secondary school (average of 7 years of schooling), and 90% had no formal education.

Agriculture is the largest source of household income, contributing 36%, followed by livestock and permanent employment at 21% each. Remittances (8%) and temporary employment (7%) also contribute, while trade, aid, and informal sources make up a smaller share.

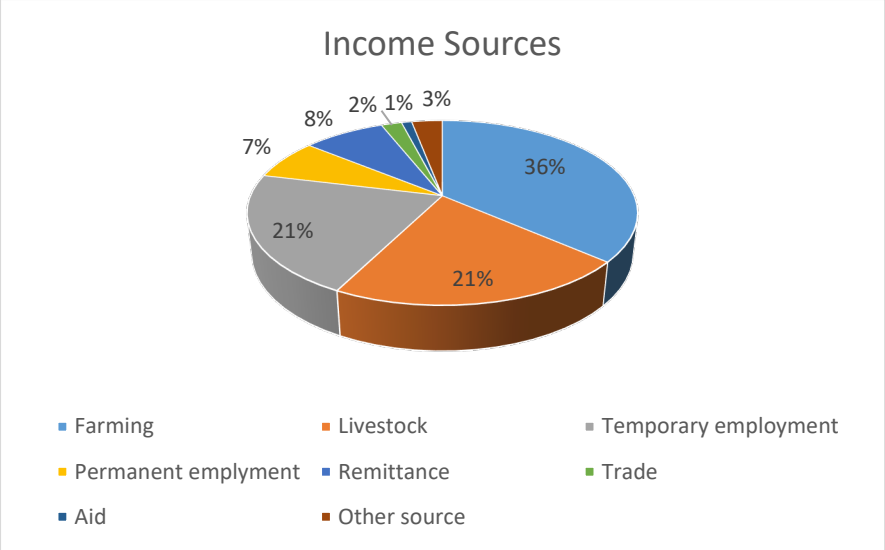

Figure 6.3. Respondent's income sources

Household income data revealed that the average household income is estimated at around 62,000 Gambian dalasi (approximately USD 1,019 today), with significantly higher contributions from women and men. However, when the data is disaggregated by gender, the contribution of women to household income is considerably lower than that of men. In addition, around 64% of household income is spent on food, while 36% of income is spent on non-food items.

6.3. Landholding and agricultural production.

Land ownership data shows that 94% of farmland is owned by the farmers, while 6% is shared. The average landholding size is 3.83 hectares, with 3.09 hectares used for crop production and 0.74 hectares left fallow. Most of the land is rainfed, with irrigated farmland making up a small fraction. The reported land rental rate is approximately 1,619 in local currency.

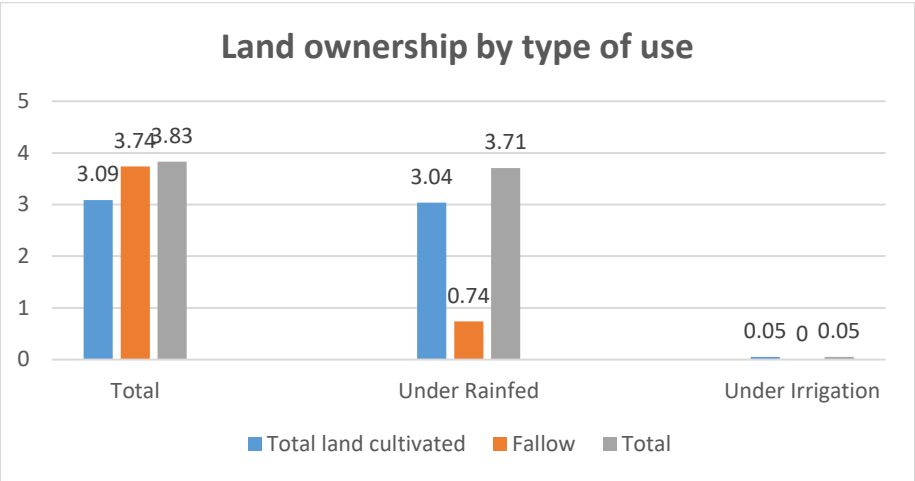

Figure 6.4. Land ownership by type of use

The respondents reported soil types as 55% loam, 23% clay, and 22% sandy. Regarding soil fertility, 42% rated it as poor, 43% as average, 10% as very poor, while only 3% and 2% considered it very good and good, respectively.

Groundnut and pearl millet are the primary crops produced, with 95% and 85% of households cultivating them, yielding an average of 900 kg and 488 kg, respectively. Other crops include maize (38% of households, 88 kg average yield), onion (32%, 33 kg), and cabbage (25%, 24 kg). Most respondents grow at least one key staple crop, primarily groundnut and pearl millet, highlighting their importance in local agricultural systems.

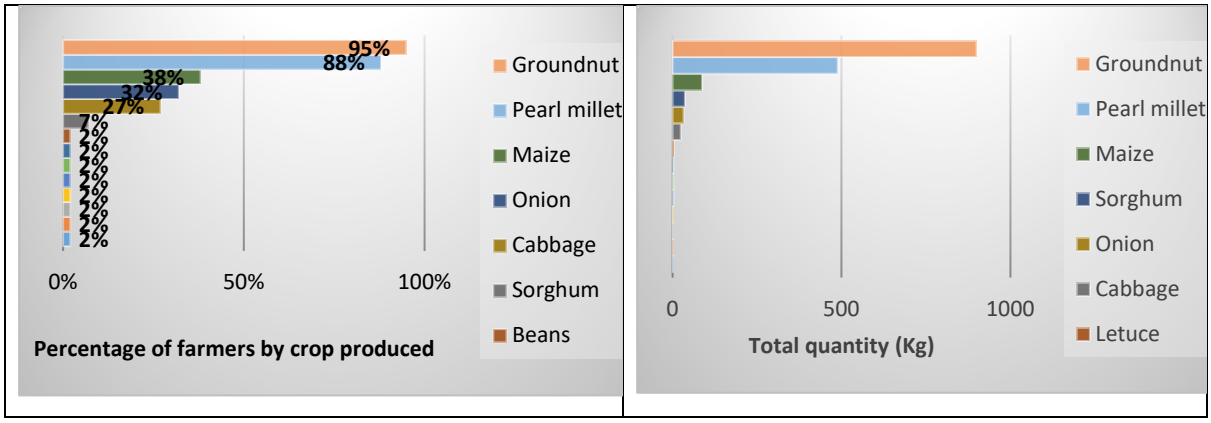

Figure 6.5. Percentage of farmers by crop produced and the quantity of crop produced

Land allocation data reveals that groundnut (33%), pearl millet (29%), and maize (12.5%) dominate land use. Despite this, yield data indicates higher per-unit production for crops like okra, suggesting inefficiency in the production of groundnut, pearl millet, and maize, which require larger land areas for modest yields. The RESADE project aims to address this by introducing improved crop varieties to boost yields of staple crops in The Gambia. Post-harvest losses were also reported, with groundnuts experiencing an average loss of 10 kg per farm during post-harvest stages, while other crops suffered less loss.

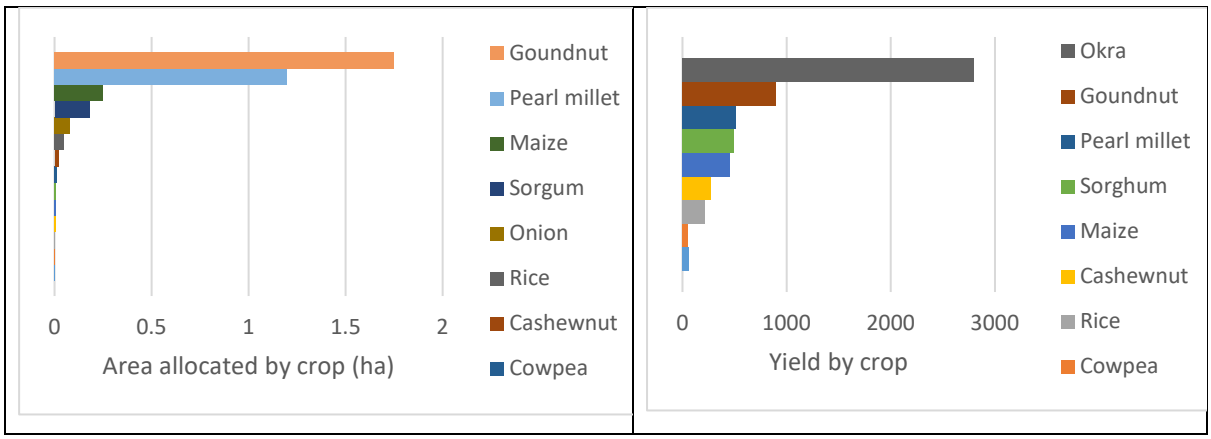

Figure 6.6. Land allocated by crop and yield obtained

6.4. Salinity coping strategies

Farmers in The Gambia have adopted various strategies to cope with shocks affecting their farming activities, including soil amendment (36%), improved irrigation methods (21%), drainage (18%), crop diversification (9%), crop rotation (6%), and other interventions (9%). Despite soil amendment being the most common strategy, followed by irrigation and drainage, only 20% of households reported yield improvements of 10–50%, while most saw no improvement. Furthermore, training on salinity management remains critically low, with only 3% of farmers receiving any technical assistance, highlighting a significant gap in capacity building.

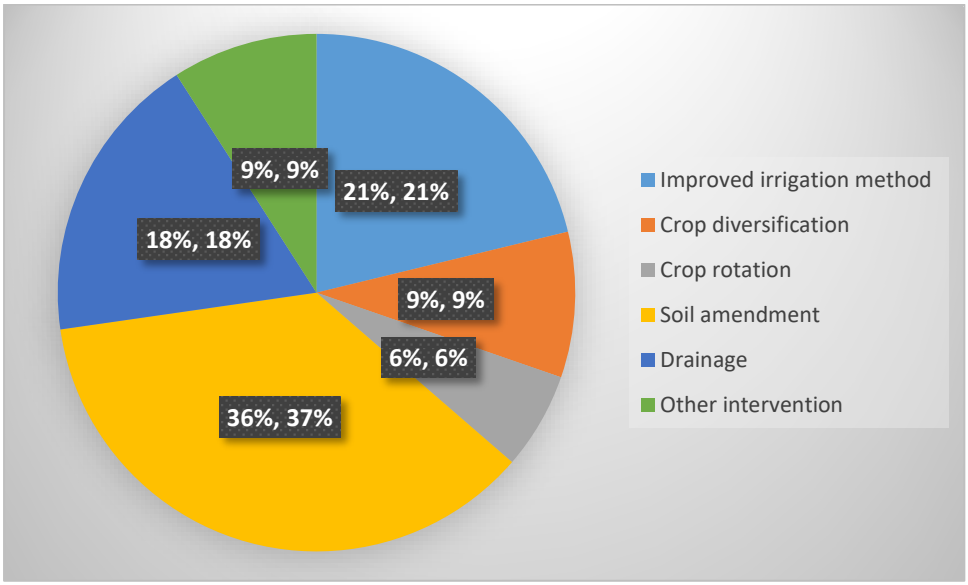

Figure 6.7. Coping strategies adopted by farmers.

Conclusion Gambia: In The Gambia, 60 farmers were interviewed during the baseline survey, revealing that farming is the primary source of income, with groundnuts, maize, and pearl millet as the main crops, though 75% of farmers operate under subsistence conditions. Soil fertility issues, salinity, and natural disasters significantly impact productivity, with salinity affecting a third of farmland and leading to yield losses of up to 100% in severe cases. Despite 75% of farmers having access to extension services, only 13% are members of cooperatives, and 97% lack soil salinity management training, limiting the effectiveness of coping strategies such as soil amendments (36%), irrigation improvements (21%), and crop diversification (9%). Farmers urgently require training, extension support, credit access, and climate-friendly technologies to address these challenges and align with the RESADE project's goals of improving productivity, income, and food security.