The State of Eritrea
Ministry of Agriculture

COMPREHENSIVE SMALL AND PRODUCTIVE FARM PLOT (SPFP) STRATEGY

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May 2026

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1. Introduction

The Ministry of Agriculture has developed and is implementing a strategic plan for the period 2024–2028 under the guiding theme: "Safe and Nutritious Food for Everyone, Everywhere!"

Safe Food: Food that is produced in a manner that safeguards human health and the environment through organic production methods, free from reliance on chemical fertilizers and pesticides, protected from pests and diseases, and handled through safe storage, transportation, and processing practices.

Nutritious Food: Food produced and consumed in a manner that ensures adequate and balanced nutritional content, including proteins, carbohydrates, vitamins, minerals, and other essential nutrients required for a healthy daily diet.

For Everyone: Refers to all Eritrean citizens

Everywhere: Refers to all parts of Eritrea, encompassing all agro-ecological zones of the country.

The realization of the vision "Safe and Nutritious Food for Everyone, Everywhere!" is envisaged through a range of initiatives, including model farmers, integrated villages-based cluster Farming, Minimum Integrated Household Agricultural Package (MIHAP), Small- and Medium- Commercial Farmers, and the implementation of the Comprehensive Small and Productive Farm Plot (SPFP) Strategy.

This brief guideline focuses on the objectives and implementation modalities of the Comprehensive Small and Productive Farm Plot (SPFP) Strategy. It serves as a continuation and enhancement of the previously introduced SPFP strategy.

2. Objective of the SPFP Strategy

The primary objective of this strategy is to enable households throughout the country, particularly those living in arid and semi-arid areas and engaged in traditional rain-fed agriculture, to produce safe and nutritious food from small farm plots. Where surplus production is generated, households are encouraged to market the excess produce to supplement their income.

3. Components of the SPFP

The strategy targets households throughout the country's rain-fed agricultural areas, with particular emphasis on those residing in arid and semi-arid regions who practice traditional farming. Participating households are encouraged to allocate, on average, a 1,000-square-meter farm plot from their available farmland for the production of field crops and vegetables. Farmers who do not possess a full 1,000-square-meter plot may implement a Half-SPFP Unit (500 m^2) or a Quarter-SPFP Unit (250 m^2), while still pursuing intensive and productive farming practices.

Farmers who possess larger areas of land and the capacity to manage them may expand their operations to two, three, or more SPFP units. In addition to crop and vegetable production, all participating households are expected to engage in complementary agricultural activities that contribute to household food and nutrition security. These include raising local backyard chickens, beekeeping using top-bar or modern hives, and keeping either one dairy cow or up to six dairy goats that can be fed partly from crop residues generated by the SPFP plot.

Accordingly, the Comprehensive SPFP Strategy consists of:

- A well-managed and productive farm plot;
- At least one top-bar or modern beehive populated with bees;
- Five to twenty-five backyard chickens; and
- One dairy cow or up to six dairy goats.

Only farmers who implement all of these integrated components are considered implementers of the Comprehensive Small and Productive Farm Plot (SPFP) Strategy.

4. Implementation Period

Although the strategy is planned for implementation over five years (2024–2028), the following timeline is proposed for greater effectiveness:

- By the end of June 2026: at least one family implementing the comprehensive SPFP should be established in every village.
- During 2027: the program should expand to all households.
- During 2028: implementation consolidation and evaluation of activities

5. Implementation Methods

Participating farmers are expected to use the designated plot intensively during the rainy season for cereal production. The standard plot size is approximately 1,000 m², but implementation may be adjusted proportionally for smaller or larger plots.

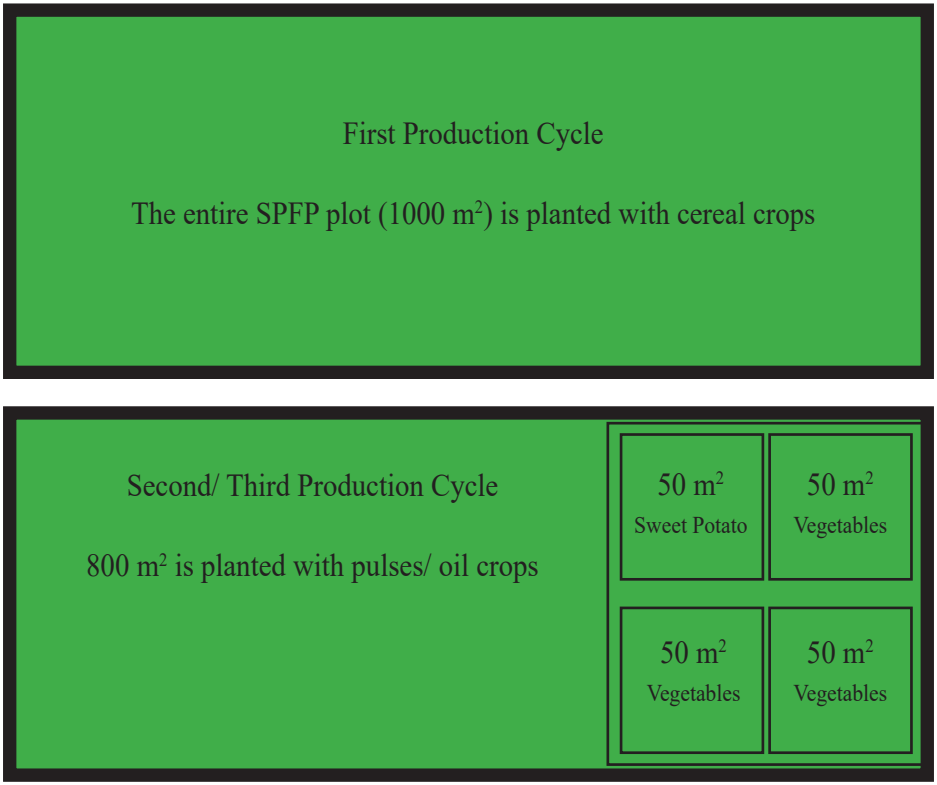

Figure 1

Implementation Modalities by Agro-Ecological Zone

A. Highland Areas (Central and Northern Highlands)

This agro-ecological zone includes the Central Region, Southern Region, most parts of the Anseba Region, some areas of the Northern Red Sea Region, and the Logo Anseba Sub-Zone of the Gash-Barka Region.

First Production Cycle

In the highlands, the first production cycle is implemented from early July to the end of October. The entire SPFP plot is planted with cereal crops that are well adapted to the local environment and dietary preferences of the community. A model layout for a 1,000 m² plot is illustrated in Figure 1.

In seasons when rainfall is delayed, farmers are encouraged to prepare seedlings of crops such as maize, sorghum, and similar crops in advance, and transplant them to the plot when favorable moisture conditions are established following the onset of rains. Accordingly, all farmers in this agro-ecological zone should start crop planting by 21 June.

Since vegetable production is generally not carried out on the SPFP plot during this season, rural households are encouraged to utilize edible wild and leafy vegetables that become available during the rainy season and, where possible, collect and market them.

Second Production Cycle

The second production cycle extends from the beginning of November to the end of February. During this period, the plot is divided into two sections. Approximately 800 m² is allocated to pulse crops such as field peas, chickpeas, and similar legumes. Of the remaining 200 m², 50 m² is permanently allocated to sweet potato production, which is continuously cultivated through crop rotation. The remaining 150 m² is devoted to vegetable production, including crops such as tomato, lettuce, cabbage, and other locally suitable vegetables. As rainfall is generally absent during this season, farmers are expected to irrigate the plot using watering cans or other locally available traditional irrigation methods. Depending

on climatic conditions, particularly in some localities affected by changing weather patterns, this production cycle may extend from mid-January to the end of April.

Third Production Cycle

The third production cycle is implemented from the beginning of March to the end of June. The plot remains divided into two sections. Approximately 800 m^2 is allocated to oilseed crops such as niger seed, sesame, and other suitable oil crops. Of the remaining 200 m^2, 50 m^2 continues to be devoted to sweet potato production as a permanent crop, while the remaining 150 m^2 is planted with various vegetables such as tomato, lettuce, cabbage, and other locally suitable crops.

B. Eastern Lowlands (Northern and Southern Red Sea Regions)

Most parts of the eastern lowlands experience a rainfall pattern that differs from that of the highlands. Some areas, however, receive an additional rainy season similar to that of the highlands. Farmers in such areas may therefore follow the same first production cycle recommended for the highlands. Other farmers should implement the SPFP according to the following schedule:

First Production Cycle

This cycle corresponds to the coastal rainy season and extends from early September to the end of December. The entire SPFP plot is planted with maize or other cereal crops adapted to local conditions. Farmers should start crop planting on September 1.

Second Production Cycle

From January through April, the plot is divided into two sections. Approximately 800 m^2 is allocated to pulse crops suited to the local environment. Of the remaining 200 m^2, 50 m^2 is devoted to sweet potato as a permanent crop, while the remaining 150 m^2 is allocated to vegetable production according to local suitability.

C. Western Lowlands (Gash-Barka Region and Parts of Anseba Region)

Farmers in the western lowlands should implement the first and second production cycles in the same manner as recommended for the highlands. However, the period from May to June is characterized by extremely high temperatures across much of the western lowlands, making crop production less favorable. Therefore, all farmers in this zone should begin crop planting from 1 July. The above-mentioned guidelines are general in nature and may be adjusted according to prevailing climatic conditions and the varieties of crops being cultivated.

Proper Management of the SPFP Plot

A. Land Preparation

The designated plot should be properly prepared according to its topography. Depending on local conditions, it may be leveled, terraced, or otherwise arranged to facilitate efficient cultivation and water management.

B. Type and Quantity of Fertilizer

The designated 1,000 m² SPFP plot should be fertilized using compost or organic manure. On average, approximately five quintals of compost are required for a 1,000 m² plot. Although this may initially appear to be a large quantity, it is important to recognize that its benefits may last for up to three years. The use of liquid fertilizers mainly fish amino acid and sea-weed extract, is also strongly encouraged under the guidance of agricultural experts.

C. Seed Type and Planting Methods

To achieve the objectives of the Comprehensive SPFP strategy, farmers are encouraged to use improved seed whenever available. Regarding planting methods, wheat and maize should be planted in rows using the following spacing:

- Wheat: 30 cm between rows.
- Maize: 75 cm between rows and 25 cm between plants.

Other crops may be planted according to farmers' experience and recommended practices. Sweet potato should be propagated using vine cuttings. Agricultural

experts are expected to provide technical support on planting and crop management. Other vegetables may be planted or sown according to technical recommendations or farmers' practical experience.

D. Seed Rates

• Wheat requires approximately 5–6 kilograms of improved seed per 1,000 m², and for an 800 m² area, the seed requirement should be adjusted proportionally.
• Maize requires approximately 2–2.5 kilograms of improved seed per 1,000 m², and seed requirements for 800 m² should likewise be calculated proportionally.

E. Crop Management

Since SPFP activities are implemented on relatively small plots, crop management practices such as irrigation, weeding, pest control, and general maintenance can largely be undertaken manually by household members. Agricultural experts assigned at village or local administrative levels should provide special attention and close supervision to these plots.

The fundamental principle of the strategy is that rural households cultivate the plot using rainfall during the rainy season and supplement water requirements during dry periods through available water sources, watering cans, or other simple irrigation methods.

Because rainfall may be delayed or insufficient even during the rainy season, households are expected to harvest and store water whenever possible to provide supplementary irrigation to the 1,000 m² SPFP plot.

F. Harvesting and Yield Assessment

Harvests obtained from SPFP plots should be carefully measured and documented. One of the key responsibilities of agricultural experts assigned at village level is to record and assess production levels. Yield differences among farmers and households are expected during the initial stages of implementation. To identify the factors contributing to higher productivity, harvests should be physically measured, documented, and recorded at the time of harvest.

The plots of successful farmers should serve as Farmer Field Schools and practical learning sites for farmers. Lessons learned from these demonstration plots should be replicated by other households. Likewise, successful farmers should share their experiences both during crop growth and after harvest as part of farmer-to-farmer learning and exchange.

With proper management, a 1,000 m^2 SPFP plot is expected to produce, on average 5 quintals of wheat; or 6 quintals of maize.

General Recommendation

To facilitate timely management of weeds, pests, and diseases, farmers participating in the SPFP program are advised to coordinate their production activities and cultivate similar crops within their communities rather than growing completely different crops individually. Collective crop management and synchronized planting practices are strongly encouraged.

6. Milk, Honey, and Egg Production

A. Dairy Cattle and Dairy Goats

Farmers participating in the Comprehensive SPFP Strategy are expected to own either one dairy cow or up to six dairy goats. The primary objective is to ensure household milk security, while any surplus production may be marketed. To improve milk production, farmers are encouraged to upgrade their livestock through selective breeding using superior local breeds.

Where dairy cattle are unavailable or unsuitable for local conditions, farmers may begin with a dairy goat and gradually expand their herd to as many as six dairy goats to meet household milk requirements. Farmers are also expected to utilize crop residues from their SPFP plots and supplement livestock feed through the production of green fodder using hydroponic systems. Technical guidance on hydroponic fodder production should be obtained from local agricultural experts.

B. Backyard Poultry

Each participating household is expected to maintain between 5 and 25 backyard chickens. Backyard chickens are preferred because of their adaptability to local environments and their ability to survive and reproduce under a wide range of

conditions throughout the country. With appropriate feeding and management, including the use of green fodder produced through hydroponic systems, households can improve egg production. To ensure sustainability, households are encouraged to hatch selected eggs from improved chickens using local chickens and gradually increase both the number and quality of their flock.

C. Top-bar Beehives

As part of the Comprehensive SPFP Strategy, each rural household is encouraged to own at least one top-bar or modern/ frame beehive populated with bees. Honey production can contribute both to household nutrition and income generation. To achieve this objective, farmers are encouraged to construct top-bar beehives themselves using locally available materials such as wood, clay, bamboo, and other suitable resources.

Documentation and Information Management

Agricultural experts assigned at village or local administration level should document SPFP activities using photographs and videos, including conditions before cultivation, during production, and before and after harvest. In addition, the area cultivated under the program should be recorded together with its geographical coordinates. Information such as crop type, yield obtained from each crop, challenges encountered during implementation, and other relevant observations should be properly documented and submitted to the Sub-Zoba Ministry of Agriculture office.

7. Conclusion

Households participating in the Comprehensive Small and Productive Farm Plot (SPFP) Strategy and implementing all of its integrated components can confidently expect to achieve improved household food and nutrition security through the production of cereals, vegetables, honey, milk, eggs, and other agricultural products.

“Safe and Nutritious Food for Everyone, Everywhere!”