

# POLICY BRIEF

REPUBLIC OF KENYA



THE NATIONAL TREASURY AND PLANNING  
STATE DEPARTMENT FOR PLANNING

## Addressing Food and Nutrition Security in Kenya: Leveraging on Green Grams Potential

*Green grams, popularly referred to as "Ndengu", have a high nutritional value and are suitable for production in Arid and Semi-Arid Lands (ASALs) that constitute 89% of the country's land area. Despite this opportunity, Kenya faces a domestic deficit of 81% of annual consumption. Green grams therefore, provide an immense potential for achieving food and nutritional security as envisaged in the 'Big Four' Agenda and as outlined by Sustainable Development Goal number 2 (SDG 2) on ending hunger, achieving food security and improved nutrition*

### Introduction

In Kenya, agriculture remains the backbone of the economy, contributing 34% to GDP, 12.2% of the formal sector employment as of 2018<sup>1</sup>, 65% of total exports and over 60% of informal employment in rural areas<sup>2</sup>. The Agricultural Sector plays a central role in food and nutritional security, which is one of the components of the 'Big Four' Agenda and SDG 2 on ending hunger, achieving food

security and improved nutrition. The sector also provides synergy to the other components of the 'Big Four' Agenda including manufacturing by providing 75% of industrial raw materials<sup>3</sup>, thus supporting employment and income generation. Article 43(1) (c) of the Constitution of Kenya also provides that "every person has the right to be free from hunger and to have adequate food of acceptable quality".

<sup>1</sup>Economic Survey 2019

<sup>2</sup> KNBS, 2016, Strategic Plan for Agricultural and Rural Statistics (SPARS-Kenya) 2015-2022

<sup>3</sup> Third Medium Term Plan

Besides, climate change poses a threat to food production through recurrent and prolonged droughts. This has adversely affected the production of traditional food crops such as maize and beans. Achieving food and nutrition security in the country therefore, calls for diversification to climate resilient traditional high value crops such as green grams that have short maturity period, suitable for rain-fed agriculture and contain high nutritional value. The large share of Kenya's ASALs area<sup>4</sup> therefore presents an opportunity for expanding green grams production.

As noted above, green grams have high nutritional content compared to other pulses and can help in enhancing food and nutritional security among the segments of the population. Green grams are a component of the food basket in the determination of food poverty line in Kenya, providing 322 Kilo calories and 23.86g of protein per 100g<sup>5</sup>. In 2017, the annual consumption of green grams in Kenya was 603,819 metric tonnes against annual production of 114,990 metric tonnes<sup>6</sup>. This translates to an annual deficit of 488,829 metric tonnes, constituting about 81% of the annual consumption. This deficit provides immense opportunity for expanding domestic green grams production to bridge the gap and meet increasing domestic demand. Various opportunities also exist in exploiting the export markets, particularly in Asia due to preference of green grams in their dietary basket. For example, in 2015/2016<sup>7</sup>, India imported from Myanmar (70.37%), Kenya (7.43%), Australia (6.32%) and

Tanzania (3.15%), percentage share of global import of green grams.

### ***The Context***

The potential of green grams as a cash crop has gained prominence in the recent past as evidenced from various initiatives to promote its production in some of the ASAL counties, through a campaign dubbed the '*Ndengu Revolution*'. Prior to this, green grams had largely been produced as a subsistence crop in Kenya. The potential of green grams is yet to be fully tapped due to constraints along the value chain, including the glut experienced in 2018 owing to the campaign, lack of market, poor prices and inadequate storage. Consequently, middlemen have taken the opportunity to exploit farmers by offering prices that are below the production cost and thus benefitted them at the expense of the farmers. These dynamics if not addressed adequately, can discourage the farmers and erode the progress achieved in popularizing green grams production in the achievement of food and nutritional security especially in the ASAL counties.

A comprehensive understanding of the green grams value chain has been lacking to guide policy interventions in ensuring proper and adequate mainstreaming of green grams production in the country. The State Department for Planning conducted a study in 2019 in the top eight green grams producing counties (Kitui, Machakos, Makueni, Tharaka Nithi, Taita Taveta, Meru,

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<sup>4</sup> Sessional Paper No. 8 of 2012 on National Policy for Sustainable Development of Northern Kenya and Other Arid Lands

<sup>5</sup> 2015/2016 KIHBS Basic Report on Wellbeing in Kenya

<sup>6</sup> Kenya Integrated Household Budget Survey 2015/2016

<sup>7</sup> 2016, Status Paper "*Pulses in India : Retrospect and Prospects*", Govt. of India, Ministry of Agri. & Farmers Welfare (DAC&FW), Directorate of Pulses Development, Vindhyachal Bhavan, Bhopal, M.P.-462004,

Embu, Kirinyaga) which indicated that the campaign to promote green grams production has encountered challenges that have hindered proper coordination of the production of the crop throughout the entire value chain. The findings from the study suggested that: -

1. Supply and access to certified seeds is low compared to the anticipated demand by farmers. The distribution of 2Kg of certified seeds per household, is enough for only one acre compared to an average of 3 acres allocated by farmers for green grams production in the most of the counties surveyed. As a result, and in the effort to bridge the shortage gap, farmers have turned to using recycled seeds from previous harvests that has significantly reduced the yields, besides making the crop weak in terms of resilience to pest and disease invasion. Investments in the research for the disease and pest resistant varieties have not been given adequate attention, leading to a narrow genetic base for the crop. Consequently, the current varieties lack the traits to cope with emerging pests, diseases as well as seasonal variations occasioned by climate change effects.
2. The cost of green grams production per acre remains high due to the high cost of inputs including certified seeds, fertiliser, pesticides and machinery. The average cost of certified seeds for example stands at Kshs. 500 per 2 Kg packet, while the cost of fertiliser remains on average at Kshs. 2,500 per 50 Kg bag making it almost unaffordable to a significant proportion of farmers willing to venture in green grams production. Weaknesses in regulation of the farm inputs (certified seeds, fertiliser and pesticides) also exists

resulting in the influx of substandard inputs in the market and consequently affecting yields per acre.

3. Green grams farming is a labour-intensive activity from land preparation, planting, harvesting to threshing and storage. For example, from the survey, it is noted that the labour costs account for about 36% of the total cost of production per acre. The high cost of production is a hindrance to the promotion of green grams farming in the country.
4. Farmer support services which include training and extension services that cover a range of farming practises such as crop management, soil conservation, use of modern technology to access market information (ICT based market and information technology), appropriate use of pesticides, compliance with sanitary and phytosanitary measures for export market, were found to be inadequate due to the limited number of extension officers and partners supporting farmers in green grams farming.
5. There is absence or at best very few farmers' cooperative societies specifically supporting green grams farming. Even where they exist, there is low farmer membership that constrains negotiation power and economies of scale. Farmer cooperatives can be crucial in helping the farmers market their green grams at good prices and also assist farmers negotiate for better prices for farm inputs.
6. Access to markets remains a key constraint for the green grams farmers as evidenced by the results from the survey. The problem of market access manifests itself in various forms:

- i. For example, over 70% of green grams farmers sell their produce through middlemen/brokers who offer uncompetitive prices due to information asymmetry and distress sales resulting from poor storage facilities and inaccessibility to alternative markets. The problem is compounded by lack of cooperative societies focused on green grams production and marketing, that would otherwise enhance the bargaining power of the farmers. Majority of farmers operate in isolation, creating opportunities for exploitation by middlemen/brokers.
  - ii. Poor infrastructure in rural areas increase costs of accessing markets and market information
  - iii. Low level of value addition and weak exploration of opportunities for alternative recipes further limit the opportunities for expanding markets for the green grams in Kenya. Farmers principally sell green grams in the traditional dried form, which offers little income opportunities. The only forms of value addition currently done by few farmers are sorting, polishing, branding and packaging.
7. Inadequate storage facilities compounded by inaccessibility to affordable pesticides contribute to significant post-harvest losses, estimated at 30% in some counties that were surveyed. This also results to quick selling behaviour by farmers at lower prices. Innovative post-harvest management practices such as the use of hermetic bags are yet to be fully embraced due to high costs of the bags (e.g. Kshs. 250 per bag).
8. There is limited participation of youth in green grams production, as evidenced in the past by dis-interest by youth in engaging in agriculture in general. The problem is compounded by increasing number of aging farmers that are involved in green grams farming and this presents an obstacle to the future of food security in the country.

### ***Gaps in the Prevailing Policy Framework***

The Constitution of Kenya Article 43(1) (c) guarantees citizens the right to adequate food of acceptable quality. This provision underscores the importance of government up scaling the achievement of food and nutrition security for all as envisaged in the “Big Four” Agenda. Although the Government has focused on food and nutrition security in the agenda, specific policy instruments are required to operationalize this Article of the Constitution to ensure the achievement of adequate food of acceptable quality to all.

The formulation of the National Food and Nutrition Security Policy in 2011 and subsequent introduction of the Food Security Bill, 2017 indicates the Government's effort in actualizing the right to adequate food. However, the Bill is yet to be enacted into law. Besides, agriculture and cooperative development are devolved functions and their implementation is limited due to skills deficits and constrained budgetary allocations. Given that the membership of farmer cooperative societies cuts across different counties, there is need for collaboration in development and support to cooperative societies. The existing cooperative sector legislations, i.e. the Co-operative Societies Act, 2004 and the SACCO Societies Act, 2008 are yet to be

aligned to the devolved system of governance. This has created gaps in the institutional support for cooperatives in the country.

The Medium Term Plan III of the Kenya Vision 2030 (MTP III) has mainstreamed the aspirations of the 'Big Four' Agenda. Key among these is the agenda of transforming the agricultural sector through productivity growth and agro-processing, which is expected to contribute to food and nutrition security. Access to traditional high value crops seeds that are tolerant to drought and diseases have been identified for promotion through seed bulking and distribution through selected institutions and farmer groups. The mainstreaming of the MTP III and the 'Big Four' Agenda into the second generation of County Integrated Development Plans (CIDPs) will serve as an avenue for achieving these aspirations. The institutions for seed bulking and distribution are however yet to be identified and farmer membership in the cooperative societies is very low. Support for the existing cooperative societies and farmer groups by county governments is inadequate.

The Public Finance Management (Strategic Food Reserve Trust Fund) Regulations, 2015 recognises maize, beans, rice, fish, powdered milk and canned beef as part of the strategic food reserve leaving out green grams, despite their potential and nutritional value. Recognising green grams as part of the Strategic Food Reserve (SFR) will increase the diversity of the Strategic Food Reserve supply chain. This will also serve as a strategy for overcoming the storage challenges at the farm level, as well as stabilising the price of green grams.

Since 2017, there have been initiatives to promote green grams production in some ASAL counties in Kenya. These counties are however yet to develop policies on green grams production and development of its value chain. This has resulted to various challenges facing farmers such as limited access to markets, storage and lost opportunities in value addition.

### ***Policy Recommendations***

Considering the various constraints and opportunities underscored in the preceding sections, the following policy interventions are recommended: -

1. **Access to affordable and quality inputs:** Under the Third Medium Term Plan (MTP III), the Government proposes to strengthen the production basis for traditional high value crops such as green grams. Access to quality and affordable inputs including certified seeds, fertilizer and pesticide among others is key to achieving this objective. Distribution of farm inputs to the lowest level of administration (i.e. Chief's Office) would promote ease of access by farmers. It is paramount to fast track the implementation of the Traditional High Value Crops Programme through the creation of the necessary infrastructure.
2. **Research and Innovation:** Kenya Agricultural and Livestock Research Organization (KALRO) should continuously develop and improve varieties of green gram seed that are resistant to drought, pests and diseases to increase yield per acre and subsequently total production.
3. **Strengthening Training and Extension Services:** There is need for collaboration

between the National and County Governments and other stakeholders to strengthen training and extension services. Establishment of demonstration farms across the counties will go a long way in enhancing farmers' capacities to learn and practice. There is need for awareness creation and promotion of compliance with sanitary and phytosanitary measures to ensure high level of quality produce that will easily penetrate the export market.

4. **Market Linkages:** There is need to develop and implement marketing strategies for green grams across the counties. Promotion of the culture of consumption of green grams among Kenyan communities and public institutions such as schools, hospitals, correctional and security services, among others will spur demand. There is also need to support the creation of farmers' groups/cooperative societies and strengthen the management of the existing ones. This will encourage bulking of green grams, hence improving farmers bargaining power. The economies of scale resulting from farmer groups would also encourage development of contract farming that can assure market for their produce. Some initiatives on contract farming are already in place in Makueni County that can serve as a learning experience.
5. **Access to Information:** There is need for adoption of user-friendly ICT-based market, farming and weather information systems to provide farmers with reliable, accurate and timely information to help them in decision making. In areas that lack modern ICT infrastructure for accessing information, there is need to leverage on complementary avenues such as use of service providers such as Safaricom, Airtel and Telkom as well as use of extension service officers and farmer groups.
6. **Consideration of green grams as part of Strategic Food Reserve (SFR):** Due to green grams glut occasioned by lack of market for the surplus produce and low farm-gate prices, purchase, storage and distribution to other areas not producing green grams will ensure food security. As such, a consideration should be made for green grams inclusion as part of the SFR.
7. **Value Addition:** Support to farmers in terms of sorting, polishing, packaging and blending, among other value addition strategies will go a long way in improving the prices and hence returns for small-scale famers and will encourage green gram farming.
8. **Access to Credit:** The cost of production in green grams farming calls for enhanced credit access to farmers. Options for consideration include establishment of funds that can benefit farmers as in the case of Makueni County's *Tetheka Fund*. Fast-tracking of the Credit Guarantee Scheme Policy and Bill will serve as a mechanism for cushioning farmers against losses that may be occasioned by crop failure.
9. **Crop Insurance:** Although green grams have a short maturity period and can do well with little rainfall compared to other crops, climate-induced shocks such as droughts, floods and frost can contribute to farmer losses. Extending crop insurance to green grams farmers will cushion them in the event of unforeseen

weather vagaries. This requires partnerships that include Government and private sector.

10. **Postharvest management:** It is imperative to support farmers with pest, disease and drought resistant green gram varieties, as well as threshing and storage infrastructure and aggregation centers to reduce losses.

11. **Youth involvement in Agriculture:** Given that the youth have limited access to land and finance to practice agriculture their involvement is therefore minimal.

There is need to promote the culture of youth participation in agri-business, and especially green grams farming which takes a shorter growing period.

12. **Strengthening Regulatory and Institutional framework:** There is need to fast-track the finalization of the Cooperative Development Policy to guide institutional reforms in the cooperative sector. Further, a blending policy should be developed and implemented which would support value addition.