





# NYERI COUNTY NUTRITIONAL RECOMMENDATIONS

BULLETIN

**June 2024** 



### NYERI COUNTY POLICY BULLETIN

### **EXECUTIVE SUMMARY**

his bulletin is a social marketing platform for novel ideas that emerge from the Food Local Agriculture and Nutrition Diversity Project. The ideas are offered in the form of ninety-eight (98) nutritional recommendations each looking for foster implementors. For this reason, this bulletin is widely shared to touch as many fosters as possible. The nutritional recommendations are divided into seven categories namely; micronutrient intake, diet quality, food security, behavior and change adoption, nutritional status, policy advocacy, research and innovation.

The centres of attraction for the bulletin are the county government's departments, national line ministries for human nutrition, development partners, non-governmental organizations, industry and manufacturers, social media (content creators and consumers), community and faith-based organizations, households and individuals. As such, this is an appeal to all nutrition-related stakeholders to adopt for implementation the nutritional recommendations aligned to their operation.





## 1: INTRODUCTION

## 1.1: Food Local Agriculture and Nutrition Diversity Project

Over the past four years, the Food Local Agriculture and Nutrition Diversity (FoodLAND) project has 28 international partners working diligently to address the pressing issue of malnutrition in six African countries in Northern and Eastern regions, namely Morocco, Tunisia, Ethiopia, Kenya, Uganda, and Tanzania. The Kenyan partners are the University of Nairobi (UoN), Kitui Enterprise Promotion Company (KEPC) and the Department of Agriculture, Livestock and Fisheries (DALF). FoodLAND's efforts culminate in a comprehensive set of distinctive 360 nutritional recommendations (NRs) of which 121 are Kenyan based. These NRs are relevant, suitable and feasible to implement in combating the diverse forms of malnutrition prevalent in each of these areas. With the aim of striving to contribute to the fulfillment of the Sustainable Development Goals, particularly target 2.2. The goal calls for a significant reduction of all forms of malnutrition. In Kenya, the FoodLAND sites include Kitui, Kisumu and Nyeri counties.

## 1.2: Purpose and Objective of the Bulletin

The purpose of this bulletin is to widely create awareness and promote increased uptake of the results, in the form of NRs generated by the FoodLAND project. Therefore, this bulletin addresses policy, decision-makers and implementors. The key targets of this bulletin are the line ministries such as the Ministry of Health, Ministry of Agriculture and Livestock, Ministry of Mining, Blue Economy and Maritime Affairs (specifically the State Department of the Blue Economy and Fisheries), Ministry of Education and Ministry of Labour and Social Protection. The objective of the bulletin is to package the county-specific NRs in a form that is user-friendly for social marketing platforms.

### 1:3: Generation of Nutritional Recommendations

The techniques used in generating the NRs included; desk review, field studies and conferences as a modified form of public participation. Additional NRs were generated based on the FoodLAND developed novel food products and technological innovations. The action of generating the NRs involved representatives of households, community groups who represent households and individuals in various forums (community health promotors/volunteers (CHP/CHV), Sub-County Community Health Focal Person (SCCHFP), government ministries that are closely aligned to human nutrition interests, UoN, KEPC and Kisumu Food Hub that draws in DALF.

The following codes; D-Direct interventions, S-Nutrition sensitive and F- Facilitative/enabling environment align the generated nutritional recommendations with the Ministry of Health interventions categories.

## 1.4: Situational Architecture Nyeri County

Nyeri County, county number 19 out of the 47 Kenya counties, is located within the central part of Kenya. The County is located in the highland zones of Kenya, and its headquarters is Nyeri town. Nyeri County is predominantly an agriculturally based county known for coffee, tea and food crops growing. The county experiences equatorial rainfall due to its location within the highland zone of Kenya (Nyeri County Integrated Development Plan, 2018).



The prevalence of diabetes among adults in Kenya is **3.3%** and is projected to rise to **4.5% by 2025 (WHO 2015).** 

The prevalence rates are higher in Nyeri county (7.2%) compared to the other two counties.

Nyeri has a total population of 759,133 persons of whom 49.3% and 50.7% are male and female respectively. Children of two years and below form 5.8% of the population in Nyeri (50.4% males and 49.4% female). A quarter (25.2%) of the population in Nyeri is made up of women of reproductive age (Kenya National Bureau of Statistics, 2019).

Evidently, the rates of undernutrition are gradually decreasing whereas those of overnutrition are increasing across the lifecycle groups at a national level. However, different counties exhibit different levels of malnutrition. Kenya Demographic Survey of 2022 shows that stunting and overweight among the Nyeri County children aged under five years is 13% and 6 % against a national prevalence of 18% and 3%, respectively.

non-communicable Kenya, diseases accounts for over half of the total hospital admissions and more than half (55%) of deaths that occur in the hospital. The key NCDs in Kenya are cancers, diabetes, chronic obstructive pulmonary diseases, conditions. cardiovascular FoodLAND's flagship in Kenya is diabetes. The prevalence of diabetes among adults in Kenya is 3.3% and is projected to rise to 4.5% by 2025 (WHO 2015). The prevalence rates are higher in Nyeri county (7.2%) compared to the other two counties.

# 2:0 NUTRITIONAL RECOMMENDATIONS FOR IMPLEMENTATION IN NYERI COUNTY

## 2.1 Micronutrient supplementation

#### Administer routine daily iron supplementation to children below six months

**NR1-F.** Ministry of Health to formulate and implement a policy on routine iron supplementation for children below six months of age.

NR2-F. Health facilities to support mothers to administer routine iron supplements to children at four months of age.

NR3-F. Community health promoters/volunteers to mobilize mothers to practice routine iron supplementation for children aged below six months

**NR4-D.** Mothers to administer oral iron 1Mg/Kg of child body weight per day.

**NR5-F.** Manufacturers to develop age-appropriate iron supplements

NR6-F. Mainstream and social media to aggressively stimulate adoption of age-specific iron supplementation for children 0 to < 6 months NR7-F. Collaborating partners, national and county government ministries to facilitate funding for iron supplementation

Research
shows that the
children aged below six
months need additional
iron. Therefore, a
policy on routine iron
supplementation is
needed.



## Administer routine iron supplementation to children 6 - <24 months

**NR8-F.** Manufacturers to develop age-appropriate iron supplements

**NR9-F.** Mainstream and social media to aggressively stimulate adoption of age-specific iron supplementation for children 6 - <2s4 months of age

NR10-F. Collaborating partners, national and county government ministries to facilitate funding for iron supplementation

# Administer routine iron supplementation to children 2 -<5 years

**NR11-D.** Health facilities to administer iron supplementation alongside ongoing routine vitamin A supplementation **NR12-F.** Manufacturers to develop ageappropriate iron supplements

**NR13-F.** Mainstream and social media to aggressively stimulate adoption of age-specific iron supplementation for children 2 -<5 months of age

**NR14-F.** Collaborating partners, national and county government ministries to facilitate funding for iron supplementation

# Curb iron and other micronutrient deficiencies in adolescents

NR15-D. Adolescents to elevate their consumption of iron rich foods such as locally available dark green vegetables, meats including organ meat especially liver NR16-F. Guardians, teachers and health workers to instill in adolescents the desire to ensure consumption of variety of vegetables and fruits

Reduce and prevent iron and calcium deficiencies in women of reproductive age, pregnant women, lactating and teenage mothers

NR17-D. Individual to increase dietary intake of foods rich in iron and calcium NR18-D. Pregnant and lactating women to go for routine check for status of calcium and iron through medical testing and check-up

# Address re-emergence of rickets (vitamin D deficiency) in children below 6months

NR19-D. Mother and child caregivers to sunbathe a child in minimal clothing exposing maximum skin to the sun, at least 15-30 minutes twice to thrice a week

NR20-F. Urban housing planners to design buildings that allow residences access to sunshine

# Address re-emergence of rickets (vitamin D deficiency) in children 6-23 months

NR21-D. Mother and child caregivers to ensure a child plays in minimal clothing exposing maximum skin, within acceptable limits, to the sun (especially at sunrise rise and sunset) at least 15-30 minutes twice to thrice a week.

NR22-F. Community health promoters/ volunteers to campaign for routine administration of cod-liver oil to children by mothers and child caregivers

NR23-F. Social media to incorporate elements of social marketing alongside commercial advertisement of cod-liver oil.

# Address re-emergence of rickets (vitamin D deficiency) (24-59 months)

NR24-D. Mother and child caregivers to ensure a child plays in minimal clothing exposing maximum skin to the sun (especially at sunrise rise and sunset) at least 15-30 minutes twice to thrice a week.





**NR25-F.** Community health promoters/volunteers to campaign for routine administration of cod-liver oil to children by mothers and child caregivers

**NR26-F.** Social media to incorporate elements of social marketing alongside commercial advertisement of cod-liver oil.

### 2.2 Food security

NR27-S. Households to adopt growing and consumption of nutrient dense crops – such as quinoa

NR28-S. Manufacturers to Engage in transfer and multiplication of novel technologies developed by FoodLAND; cold storage, solar driers, mango harvesting tool and biobased packaging materials.

## 2.3 Behavior change and adoption

## Adopt innovative ways of elevating and protecting exclusive breastfeeding

**NR29-F.** Health workers to spur mothers to adopt more innovative ways of exclusive breastfeeding behaviour such as expressing breastmilk and skin-to-skin to contact.

NR30-D. Mothers who spend any time away from the child to adopt practical, safe and hygienic ways of feeding child on expressed breastmilk.

NR30.1 Adherence to hygiene expression, handling and storage of breastmilk should be emphasized.

NR30.2 Spouse and other household members to continuously encourage mothers to practice exclusive breastfeeding

NR30.3 Government to enforce law mandating employers to provide lactation rooms for breastfeeding mothers.

### Adopt healthy snacking behaviour among adolescents

NR31-D. Adolescents to reduce consumption of highly processed salted snacks – crisps and sweetened beverages

NR32-D. Adolescents to convert to consumption of healthy snacks; groundnuts, fruits in place of highly processed snacks

#### **Drink the recommended quantities of water; (Adolescents)**

NR33-D. Adolescents to ensure they drink 6-8 glasses (240ml) per day

NR34-D. Parents/caregivers to procure colourful water bottles to stimulate the urge to drink water

# Limit/eliminate consumption of foods and substances that are hazardous to health in adult men

NR35-D. Adult men to avoid foods that predispose them to nutritional related health hazards

NR36-D. Adult men to moderate intake of alcohol intake preferably completely abstain with the facilitative help of household members, nutritionists, community health





outreach, counselors and the faithbased organizations.

# Offer to adult men transformational nutrition education on importance of nutritious healthy eating

NR37-D. Adult men to reduce consumption of highly processed salty foods

NR38-D. Adult men to create intention to read food labels and to act appropriately

# Improve level of physical activity of adult men

NR39-F. Nutritionists and other health workers to sensitize adult men on the various ways of measuring physical activity performance (mobile phone apps etc.)

**NR40-F.** Nutritionists with the support of community-based outreach to engage in continuous conversations with adult men as a channel of convincing them to adopt a more active and monitored physical lifestyle

Adult men to ensure that they get health facility based regular nutritional and medical check-ups (a must- blood glucose, blood pressure, prostrate)

**NR41-D.** Adult men to create and follow a plan for routine check-ups

NR42-D. Community based health outreach to mobilize adult men to go for routine nutritional and medical check-ups

## 2.4 Diet Quality

Improving diet quality of children aged six to <24 months by diversifying the diet to ensure inclusion of the per day recommended eight

# (8) food groups to meet the minimum target of five out of eight for breastfeeding and four out of seven for non-breastfeeding children.

NR43-D. Include adequate amounts (using volume and frequency in consumption) of foods of high biological protein value and nutrient dense foods; meat, poultry, fish, eggs, dairy and quinoa in children's diet.

Improve diet quality of children aged 2 - <5 years by diversifying the diet to ensure inclusion of the per day recommended seven (7) food groups to meet the minimum target of four out of seven.

**NR44-D.** Mothers and caregivers especially at the household level to;

NR44.1 Feed children offal/ organ meat once a week

NR44.2 Feed children on traditional vegetables and fruits everyday

# Adopt diet diversification to improve diet quality among adolescents

NR45-D. Adolescents to make and own transformative nutritious conscious decisions

**NR46-F.** Health service providers to provide adolescents with supportive transformational tools and skills to actualize the decision on appropriate food choices for diet diversification and improved quality.

NR47-D. Adolescents to adjust the three meals a day especially breakfast to resemble a whole meal that includes high nutrient dense foods especially those of high protein biological value and high fiber content (Whole foods).

# Improve diet quality through diet diversification using the recommended 10 food groups in adult Men

NR48-D. Adult men to consume foods from at least five food groups of the ten food groups (eggs, Meat, poultry and fish, pulses, nuts and seeds, dairy,



dark leafy greens and vegetables, other vitamin A-rich fruits and vegetables, other vegetables, other fruits, grain, roots and tubers)

NR49-D. Nutritionists to provide nutrition education on benefits of consumption of nutritious snacks for informed decision and their consumption.

# Limit/eliminate consumption of foods and substances that are hazardous to health in adult men

NR50-D. Adult men to avoid foods that pre-dispose them to nutritional related health hazards

**NR51-D**. Adult men to moderate intake of alcohol intake preferably completely abstain with the facilitative help of household members, nutritionists, community health outreach, counsellors and the faith-based organizations.

### Improve diet quality through food diversification among the elderly)

NR52-D. Nutritionists, through nutrition education to sensitize the elderly and the caregivers on the importance and their consumption of a diversified nutrient dense diet inclusive of foods of high biological value protein

NR53-D. Elderly persons with support from the caregivers to reduce consumption of starchy foods by offering smaller portions

#### Improve household diet quality by adopting better diet diversification

NR54-S. Revive/establish kitchen gardens (individual or households in groups).

NR55-S. Adopt growing and consumption of nutrient dense crops – such as guinoa

NR56-D. Increase consumption of protein of high biological value- meat, poultry, fish, eggs, dairy

NR56.1 Households to increase the number of chickens kept for eggs to meet dietary consumption and sale needs. To achieve this; should have one egg-laying chicken per household member and an additional number for sale and defaulted egg-laying.

NR56.2 Adopt production of mala (fermented milk) and yogurt for household consumption and income generation.

NR56.3 County government and development partners to support fish farming in the community to help meet high biological value protein

#### Diversify the household diet using the recommended eight food groups

**NR57-D** Nutritionists to provide transformational awareness to household members on the existing food groups for cognition and action.

NR58-D Households to take-up new behaviour based on transformational awareness NR59-D Household head to prioritize household food and nutrition needs while continuously stimulated by nutritionists and community-based outreach

#### Increase consumption of nuts and seeds across age groups among households

**NR60-D**. Adopt consumption of pumpkin seeds (rich in zinc, manganese and vit K).

NR61-D. Intentionally chew seeds in fruits- melon seeds, passion seeds (intentional chew



and break them to aid digestion- normally people don't chew, they swallow them whole-passion seeds are rich in *magnesium*, *potassium*, *vit A*, & *vit C*).

**NR62-D.** Adopt consumption of locally available nuts; macadamia nuts, groundnuts among others available in the market.

NR63-D. Nutritionists to provide transformational awareness on the nutritional importance and benefits of seeds

#### **Warning Labels**

NR64.-D Manufacturers with reinforcement from the national government to label foods that pre-dispose individuals to health risks and hazardous

NR64.1 Excessive use of sugar intake is harmful to your health

NR64.2 Excessive salt intake is harmful to your health

NR64.3 Excessive consumption of ultra-processed snacks is harmful- avoid them

NR64.4 Excessive intake of carbonated drinks is harmful to your health

NR64.5 Excessive intake of fast foods is harmful to your health

### **Novel Diet Quality Indicators**

Citrus, Other fruits

| NR no   | NCD-P                                    | Recommendation   |
|---|--|--|
| NR65.   | <3- Minimal protection (Red)             | To raise their consumption by at least three (3) of the nine (9) designated food groups                                  |
| NR66.   | 3-4 – Medium<br>protection (brown)       | To raise their consumption by at least two to three (2-3) of the nine (9) designated food groups                         |
| NR67.   | >4 -<6- Upper medium protection (orange) | To alert them of their border-line status and the need to raise their consumption to the nine (9) designated food groups |
| NR68.   | >6- High protection (green)              | Ensure they maintain not less than six, while they strive to raise to the nine (9) designated food groups                |
| The nine (9) recommended Whole grains, Pulses, Nuts and seeds, Vitamin A-rich vegetables. Dark green leafy vegetables. Other vegetables. Vitamin A-rich fruits. |  |  |



| NR no    | NCD-R   | Recommendation   |  |
|----------|---|--|--|
| NR69.    | <3- Minimal risk (green)                            | To completely avoid consumption of soft drinks and saturated fats and minimize consumption of the food groups listed in row 6.   |  |
| NR70.    | 3-4 -Medium risk (orange)                           | To ensure their level of risk does not deteriorate by completely avoiding consumption of soft drinks and saturated fats; minimize consumption of the food groups listed in row 6.  |  |
| NR71.    | >4 -<6- Upper medium risk (brown)                   | To completely avoid consumption of soft drinks and saturated fats and minimize consumption of the food groups listed in row 6; create healthy diet peer group to support one another in adopting and sustaining healthy dietary practices.   |  |
| NR72.    | >6- High risk (red)                                 | To completely avoid consumption of soft drinks and saturated fats; to seek diet counselling that integrates physical activity for adoption and consider nonconsumption of the food groups listed in row 6; create healthy diet peer group to support one another in adopting and sustaining healthy dietary practices; to initiate regular monitoring sessions with a health provider. |  |
| Food are | Food groups to avoid/ reduce to minimal consumption |  |  |

Food groups to avoid/ reduce to minimal consumption Soft drinks (sodas), baked / grain-based sweets, other sweets, processed meat, unprocessed red meat, deep fried food, fast food & instant noodles, packaged ultraprocessed salty snacks.

#### 2.5 Nutritional Status related NRs

Implement actions towards reducing malnutrition (stunting, underweight, wasting, overweight, and obesity in children below 6-59 months

**NR73-D** Stunting- Continually feed children on adequate amounts of foods of high protein biological value (meat, poultry, fish, eggs, dairy).

NR74-D Wasting and underweight- ensure adequate caloric intake

NR74.1. Caregivers to incorporate daily consumption of energy dense foods; ghee, avocado, nuts (peanuts and macadamia) in the children's diet.

NR74.2. Increase consumption of ghee (due to its high caloric content) as a substitute for commercial energy dense products in management and prevention of undernutrition (wasting and underweight) at community level.

NR75-D Overweight and Obesity

NR75.1 Equip mothers and supporting caregivers with capacity and skills to recognize overweight and obesity by adhering to growth monitoring.

NR75.2 Equip mothers and supporting caregivers with knowledge on foods that



TAPEMEASURES

To prevent
and manage
overweight and obesity
households should
have tape measures to be
monitoring the size of their
waistlines to ensure they do
not exceed 35 inches for
women and 40 inches
for men.

predispose children to overweight and obesity and aggravate over nutrition status.

NR75.3 Mainstream and social media to conscientize the population on overweight and obesity and its consequences on health.

# Implement actions towards reducing malnutrition overweight, and obesity among adolescents

NR76-D. Adolescents to routinely monitor their waistline for action towards maintenance of ideal body weight.

NR77-DAdolescents to increase participation in games and sports such as soccer, basketball, netball, volleyball.

#### NR78-D. The household member to:

NR78.1. Upload a step-tracking application into the phones to monitor their daily activity (steps)

NR78.2. Ensure they walk 7500-10000 steps a day

NR78.3. Reduce portion sizes of the starchy staples (potatoes, sweet

potatoes, rice, wheat, maize) and generally avoid overeating, hogging, surfeiting and binging.

NR78.4. Increase portion sizes of pulses such as green grams, lentils, pigeon peas, peas and cow peas as well as include high biological value protein foods.

NR78.5. Adopt intermittent fasting by reducing the number of meals consumed in a day- helps in weight management, blood sugar regulation and management of insulin resistance. NR78.6 Acquire a tape measure and routinely monitor their waistline and take action if >40 inches for men and > 35 inches for women

# Improve nutritional and health status of the elderly

**NR79-D** Enhance dental care for the elderly persons

NR79.1. The elderly to take charge of their oral and dental health to facilitate smooth mastication of food.

NR79.2 The elderly with support of the caregivers to go for regular dental check-up for appropriate action. NR80-F The household level supporting system of the elderly to comprehend the psychological propensity of people of this age group so as to provide conducive environment for consumption of nutritious diets

NR81-D The elderly and the caregivers to obtain for application all nutritional and aligned advice from licensed practitioners.

**NR82-D.** The elderly to moderate and preferably abstain from alcohol consumption.





NR83-D Elderly to integrate intake of drinking water for weight loss, good health and well-being.

**NR84-D** The elderly to ensure they engage in age-appropriate physical exercises for weight management, muscle toning/building and well-being.

#### **Manufacturers**

NR85-F Manufacturers to produce value-added graduated tape measures to enable monitoring of waistline in mitigating overweight and obesity.

## 2.6 Policy Advocacy

NR86-F. Ministry of Health to formulate and implement a policy on routine iron supplementation for children below 59 months of age.

**NR87-F.** Government to enforce law mandating employers to provide lactation rooms for breastfeeding mothers

**NR88-F.** Policy makers and regulators to develop policies, regulations and legislate; to support uptake and scaling up of the novel technologies.

## 2.7 Research/Innovation

NR89-F Research institutions to conduct longitudinal studies at county level to monitor iron status in the child's first six months of life

NR90-F Research institutions to conduct longitudinal studies at county level to monitor iron status in the child's first two years of life

NR91-F Research institutions to

conduct longitudinal studies at county level to monitor iron status in the child's first five years of life

NR92-F Researchers to determine appropriate waistline cut-off points for females and males adolescents for a graduated tape measure NR93-F Conduct research for evidence-based action for the elderly

ELDERLY

The elderly with
support of the caregivers
to go for regular dental check-up for
appropriate action for enhanced mastication
of food

The household level supporting system of the elderly to comprehend the psychological propensity of people of this age group so as to provide conducive environment for consumption of nutritious diets

The elderly and the caregivers to obtain for application all nutritional and aligned advice from licensed practitioners.

The elderly to moderate and preferably abstain from alcohol consumption.

Elderly to integrate intake of drinking water for hydration, good health and well-being.

The elderly to ensure they engage in ageappropriate physical exercises for weight management, muscle toning/ building and well-being. NR92.1 Researchers to establish state of the art of nutritional, including micronutrient status, of the elderly for precise intervention.

NR92.2 The government to include data collection of the elderly in its routine data acquisition system such as in the demographic health survey.

NR94-S Manufacturers to engage in transfer and multiplication of novel technologies developed by FoodLAND; cold storage, solar driers, mango harvesting tool and bio-based packaging materials.

NR9-S Farmers to use novel precise fruit harvesting technology at fruit optimal maturity

NR96-S Social media to break and disperse the news on the novel technologies

NR97-S Social media platforms to social market and promote adoption of the nutrition related novel technologies developed by FoodLAND.

**NR98-S** Social media platforms to create channels and strategies for sustained social marketing of the FoodLAND generated technologies.



## 3: WAY FORWARD AND PARTING SHOT

- 1) The NRs will be shared via other channels
- 2) Content related to NRs will be created; e.g. press release, short videos
- 3) Advocate for inclusion of as many NRs as is feasible in the County Integrated Development Plan and County Nutrition Action Plan.
- 4) Related to (3) above, lobby for increase in budgetary allocation for specific nutrition activities.
- 5) Advocate for the adoption of more impact actions based on the NRs by the faith-based organizations.

The purpose of this bulletin is to foster adoption for implementation and monitoring of these NRs in Nyeri County. Selection and uptake of the NRs for implementation and monitoring would go a long way in improving the nutritional status and mitigating against non-communicable diseases in Nyeri County; in addition to enhancing longevity and sustainability of the exploitable research results and products developed by FoodLAND project.

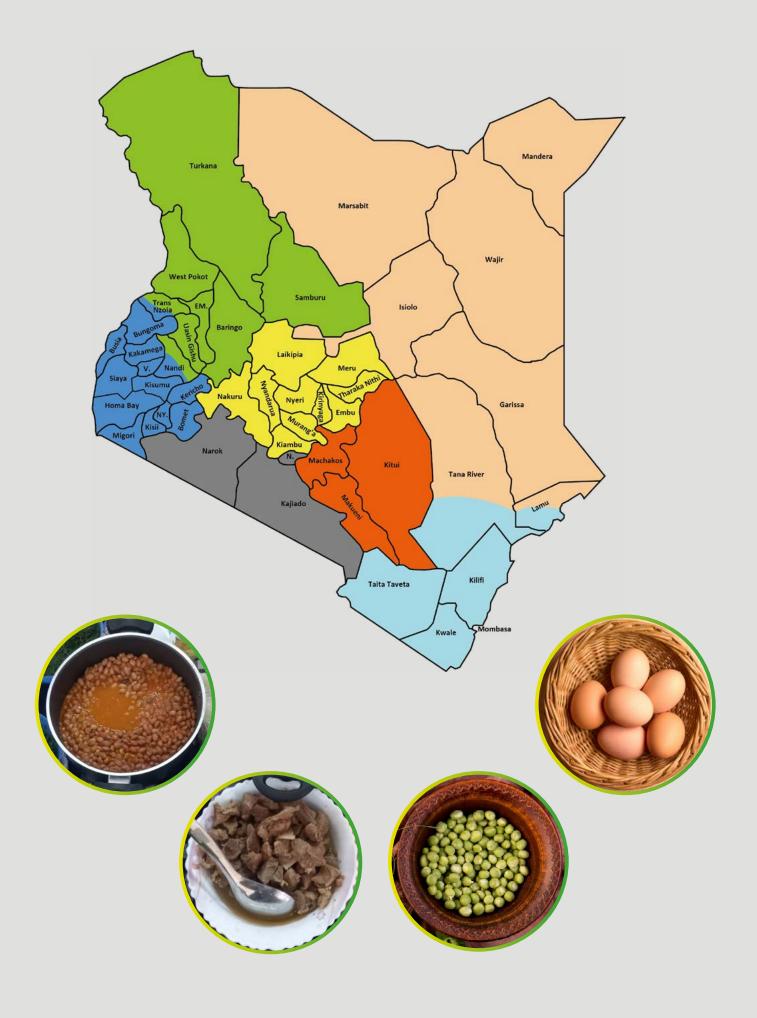
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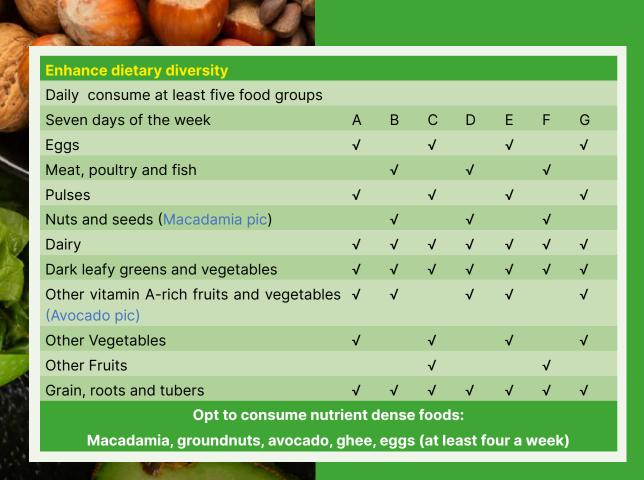
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- ii. FoodLAND D2.6- Nutritional Recommendations (2023)
- iii. Nyeri County Integrated Development Plan (2023-2027).













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