

KISUMU COUNTY NUTRITIONAL RECOMMENDATIONS

BULLETIN

June 2024

BLUE ECONOMY

A composite image representing the Blue Economy. It features a large cargo ship with red and white containers sailing on a blue sea. In the foreground, a small wooden boat with a person is visible. To the left, there are several circular aquaculture cages floating in the water. The background shows a bright blue sky with white clouds.

POLICY BULLETIN

Providing a platform to human nutrition agencies in Kisumu County to select and adopt aligned actionable nutritional recommendations for Uptake.

Proposed by Food and Local Agricultural and Nutritional Diversity Project (FOODLAND) and University of Nairobi, Kenya-Funded by the European Union

KISUMU COUNTY POLICY BULLETIN

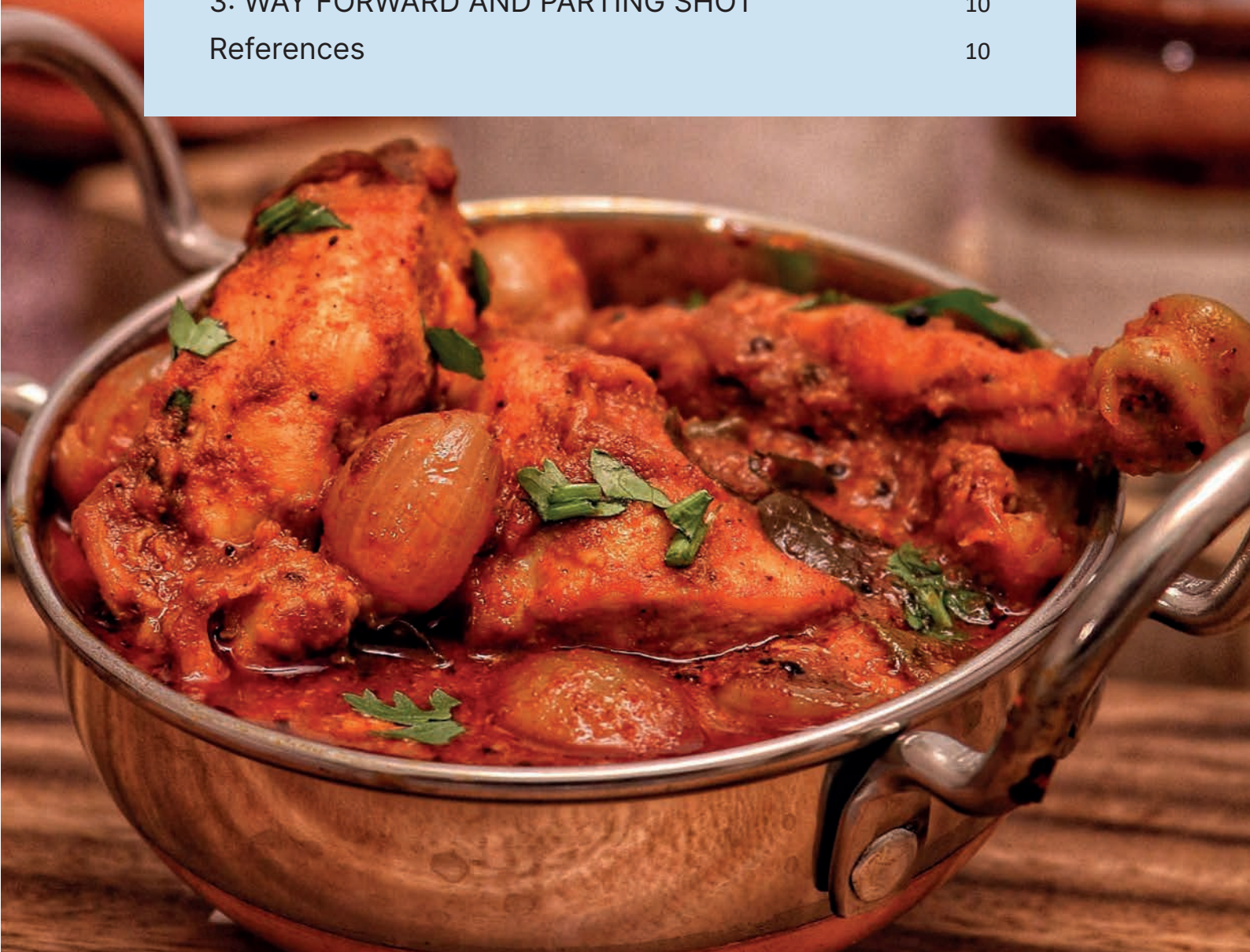
EXECUTIVE SUMMARY

This 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 forty (40) 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 NRs aligned to their operation.

TABLE OF CONTENTS

1: INTRODUCTION	4
1.1: Food Local Agriculture and Nutrition Diversity Project	4
1.2: Purpose and Objective of the Bulletin	4
1.3: Generation of Nutritional Recommendations	4
1.4: Situational Architecture Kisumu County	4
2:0 NUTRITIONAL RECOMMENDATIONS FOR KISUMU COUNTY FOR IMPLEMENTATION	6
2.1. Micronutrient Supplementation	6
2.2 Diet Quality	6
2.3 Food security	8
2.4 Behavior change and adoption	8
2.5 Nutritional status related NRs	8
2.6 Policy Advocacy	9
2.7 Research/Innovations	9
3: WAY FORWARD AND PARTING SHOT	10
References	10





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 which has 28 international partners worked 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 University of Nairobi (UoN), Kitui Enterprise Promotion Company (KEPC) and 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 ultimately striving to contribute to the fulfilment of the Sustainable Development Goals, particularly target 2.2, which calls for the 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, inform of NRs generated by FoodLAND project. Therefore, this bulletin addresses policy, decision makers and implementors. The key targets of this bulletin being the line ministries such as 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 modified form of public participation. Additional NRs were generated based on the 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 promoters/volunteers (CHP/CHV), Sub-County Community Health Focal Person (SCCHF), 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 Kisumu County

Kisumu County, whose county code is County 42, is one of the 47 counties in Kenya and part of the six (6) counties in the Nyanza region. It is surrounded by Lake Victoria, which is the second-largest freshwater lake in the world. The population of the County according to

the 2019 Kenya Population and Housing Census was 1,155, 574 persons with 560,942 (48.5 percent) males and 594,609 (51.5 percent) females. Children under the age of 5 made up 16 percent of the population. About 36 percent of the population were children of schooling age, which in Kisumu are children between the ages of 3 and 17. Women of reproductive age comprised 51 percent of the female population. Child malnutrition levels are: stunting level stands at 9.1%, wasting at 3%, and underweight at 3.5% (KDHS, 2022). The outcomes of stunting, wasting and underweight are closely linked to poor child feeding practices and the quality of children's diets. The quality of diets for women and children does not meet the minimum acceptable standards of WHO and UNICEF (County Government of Kisumu, 2023).

According to the HFIAP (2018), 71.3% of sampled households were either moderately food insecure (26.3%) or severely food insecure (45%), implying a high prevalence of food insecurity in Kisumu. Nearly 86% of sampled households had a dietary diversity score of six and less, where less than six is a proxy for malnutrition (CONSUMING URBAN POVERTY POLICY BRIEF # 4).

In Kisumu County, the prevalence of diabetes increases with age and is higher in males than females. Only 26% of the health centres routinely screen for diabetes whereas 61% have the capacity to test for diabetes. The lack of resources to regularly screen for and manage diabetes is a major setback(Purdy et al., 2020).

More of the county's population lives in the rural areas than in the urban and peri-urban parts of Kisumu County. The county has a good policy framework that is geared towards improving the food and nutrition security of the county. The policy documents include County Agri-nutrition Implementation Strategy 2023-2027 and Kisumu County Food-system Strategy 2023-2027.



More of the county's population lives in the rural areas than in the urban and peri-urban parts of Kisumu County. **The county has a good policy framework that is geared towards improving the food and nutrition security** of the county.



2:0 NUTRITIONAL RECOMMENDATIONS FOR KISUMU COUNTY FOR IMPLEMENTATION

2.1. Micronutrient Supplementation

NR1-D Give routine iron supplement drops to children from four months to five years of age.

NR2-D Administer routine iron supplementation for low birth weight babies.

At household level;

NR3-D Give offal/ organ meat once a week to children (aged 6-59 months).

NR4-D Feed children with traditional vegetables every day.

Manufacturers;

NR5-F Develop age-appropriate iron supplements.

Mainstream and social media;

NR6-F Promote age-specific iron supplementation and consumption of iron-rich foods by children 0 to <5 years.

2.2 Diet Quality

NR7-D Consume a diversified diet using the recommended eight food groups among children 6-23 months of age (with continued breastfeeding).



Adolescents to;

NR8-D Consume a breakfast that resembles a whole meal that includes high nutrient-density foods (Whole foods).

NR9-D Reduce consumption of highly processed salted snacks, high fat and sugar content. (such as crisps, sweetened beverages and highly processed meat).

Household members to;

NR10-D Increase consumption of protein of high biological value- meat, poultry, fish, eggs and dairy.

- NR10.1-F Households to increase the number of chickens kept for eggs to meet dietary consumption and sale needs. To achieve this, one egg-laying chicken per household member and an additional number for sale and defaulted egg-laying.
- NR 10.2-F Adopt production of mala (fermented milk), kefir and yogurt for household consumption and income generation.

NR11-D Adopt consumption of pumpkin seeds (*rich in zinc, manganese and vit K*).

NR12-D Intentionally snack on and chew seeds in fruits- melon seeds, passion seeds (intentionally 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*).

NR13-S Promote growing and consumption of nutrient-dense crops and fruit trees to diversify the food basket (such as traditional vegetables).

NR14-S Encourage increased production and consumption of ruminants and poultry (rabbits, chicken, quails, duck, turkey, and guinea fowl) and beekeeping.

NR15-S Facilitate increased production and consumption of pigs and other large animals such as cattle and goats (and goat milk).

Nutritional Recommendations based on novel diet quality indicators

i. Non-Communicable Disease-Protect

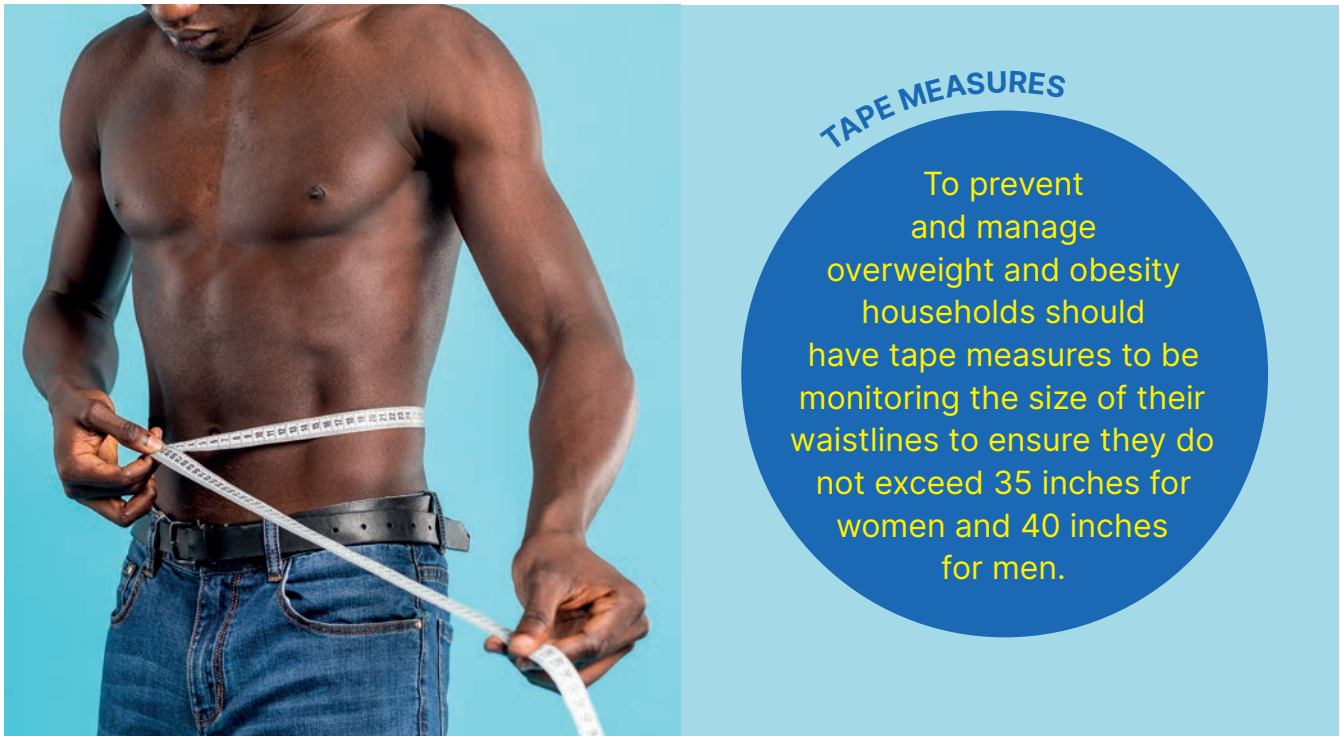
NR no	NCD-P	Recommendation
NR16-D	<3- Minimal protection (Red)	To raise their consumption by at least three (3) of the nine (9) designated food groups
NR17-D	3-4 – Medium protection (brown)	To raise their consumption by at least two to three (2-3) of the nine (9) designated food groups
NR18-D	>4 -<6- 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
NR19-D	>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 orange vegetables, Dark green leafy vegetables, Other vegetables, Vitamin A-rich fruits, Citrus, Other fruits

ii) Non-communicable Disease-Risk

NR no	NCD-R	Recommendation
NR20-D	<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.
NR21-D	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.
NR22-D	>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.
NR23-D	>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 non-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; to initiate regular monitoring sessions with a health provider.

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 ultra-processed salty snacks.



TAPE MEASURES

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.

2.3 Food security

NR24-S Revive/establish kitchen gardens (individual or households in groups).

NR25-F Households to establish means of generating their own significantly increased income to reduce the high urban poverty and unemployment rate.

NR26-F Households to link with relevant stakeholders including; community-based Organizations, Small and Medium Enterprises and County governments for capacity building and opportunity harvesting.

NR27-F Farmers to

NR27.1 Harvest fruits at optimal maturity;

NR27.2 Use novel precise fruit harvesting systems- FoodLAND developed a precision mango harvesting tool.

2.4 Behavior change and adoption

NR28-D Invoke higher consumption of expressed breastmilk by adoption of more innovative ways of convincing mothers

to adopt new feeding behavior such as expressing breastmilk.

NR29-D Adolescents should drink water- 6-8 glasses (240ml)

2.5 Nutritional status related NRs

NR30-D The household member to:

NR30.1 Upload a step-tracking application into the phones to monitor their daily activity (steps)

NR30.2 Ensure they walk 7500-10000 steps a day

NR30.3 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.

NR30.4 Reduce portion sizes of the starchy staples (potatoes, sweet potatoes, rice, wheat, maize)

NR30.5 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 (autophagy).

NR30.6 Acquire a tape measure and routinely monitor their waistline and take action if >40 inches for men and > 35 inches for women.

NR 31-F Manufacturers to produce color-coded tape measures.

NR 32-D Adolescents to increase participation in games and sports such as soccer, basketball, netball, volleyball etc.

NR33-F Local authorities and other stakeholders to provide playgrounds for children.

2.6 Policy Advocacy

NR34-F Develop policies, regulations and legislation to support the uptake and scaling up of the novel technologies developed by FoodLAND (precision harvesting, solar drying and cold storage).

2.7 Research/Innovations

NR35- F Conduct longitudinal studies at county level to establish iron status in the first two years of life

NR36- F Conduct research on the consumption of milk (quantities consumed)

NR37- F Conduct research on the nutritional status and diet quality of adolescents

NR38- F Research on the effect of mulberry fruit and leaves on human health. Rich in iron, Vit C, Vit K, and Calcium. Helpful in lowering blood sugar, weight loss

NR39-F Industry/Manufacturers to;

- Engage in transfer and multiplication of novel technologies developed by FoodLAND; cold storage, solar driers and bio-based packaging materials.
-

NR40-F Media to social market and promote adoption of the novel technologies developed by FoodLAND



Encourage increased **production and consumption** of ruminants and poultry (rabbits, chicken, quails, duck, turkey, and guinea fowl) and beekeeping.



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 the 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 an increase in budgetary allocation for specific nutrition activities.
- 5) Advocate for the adoption of more impact actions based on the NRs by faith-based organizations.

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

As such, this is an appeal to all nutrition-related stakeholders to adopt the NRs aligned to their operation for implementation.

References

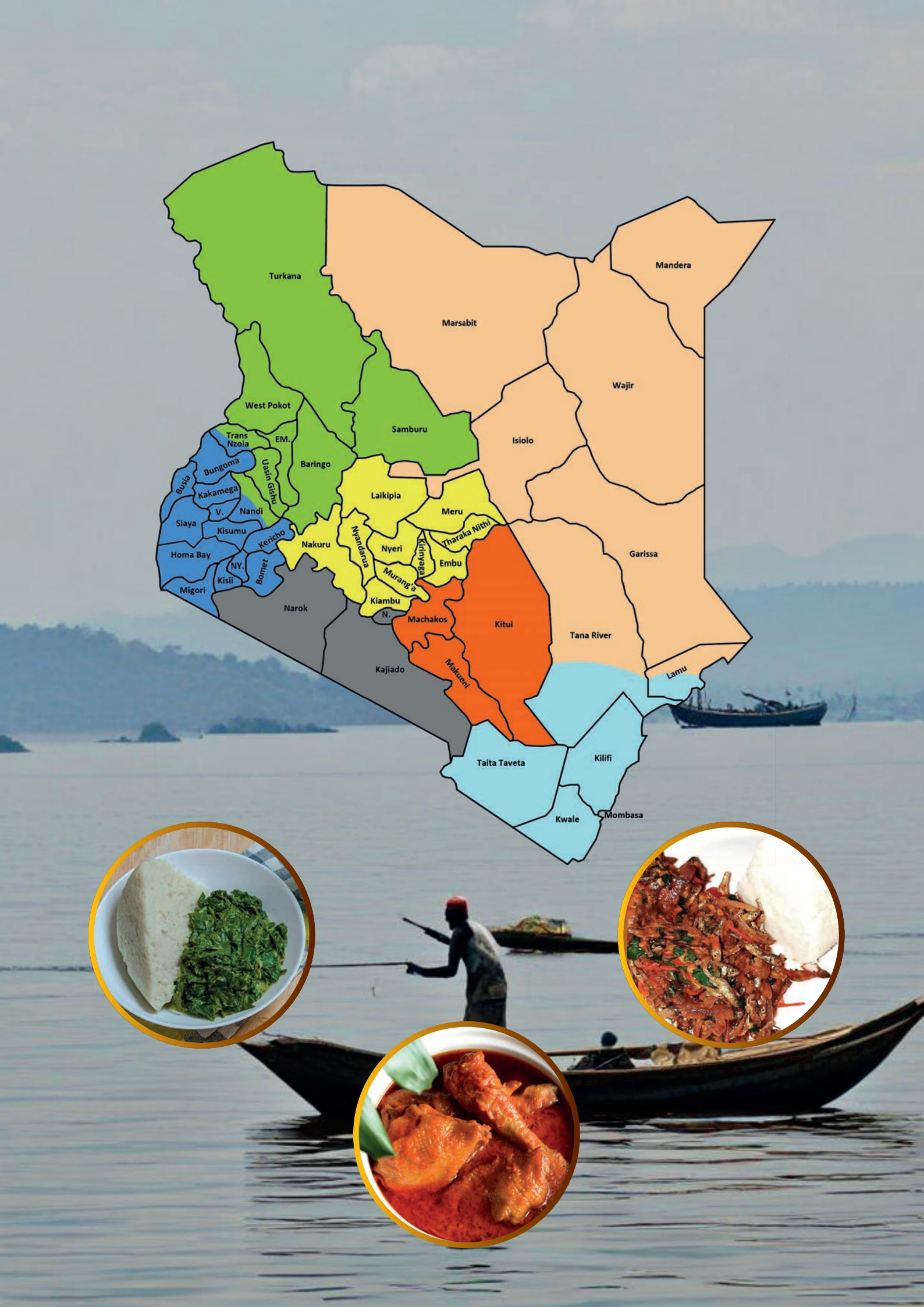
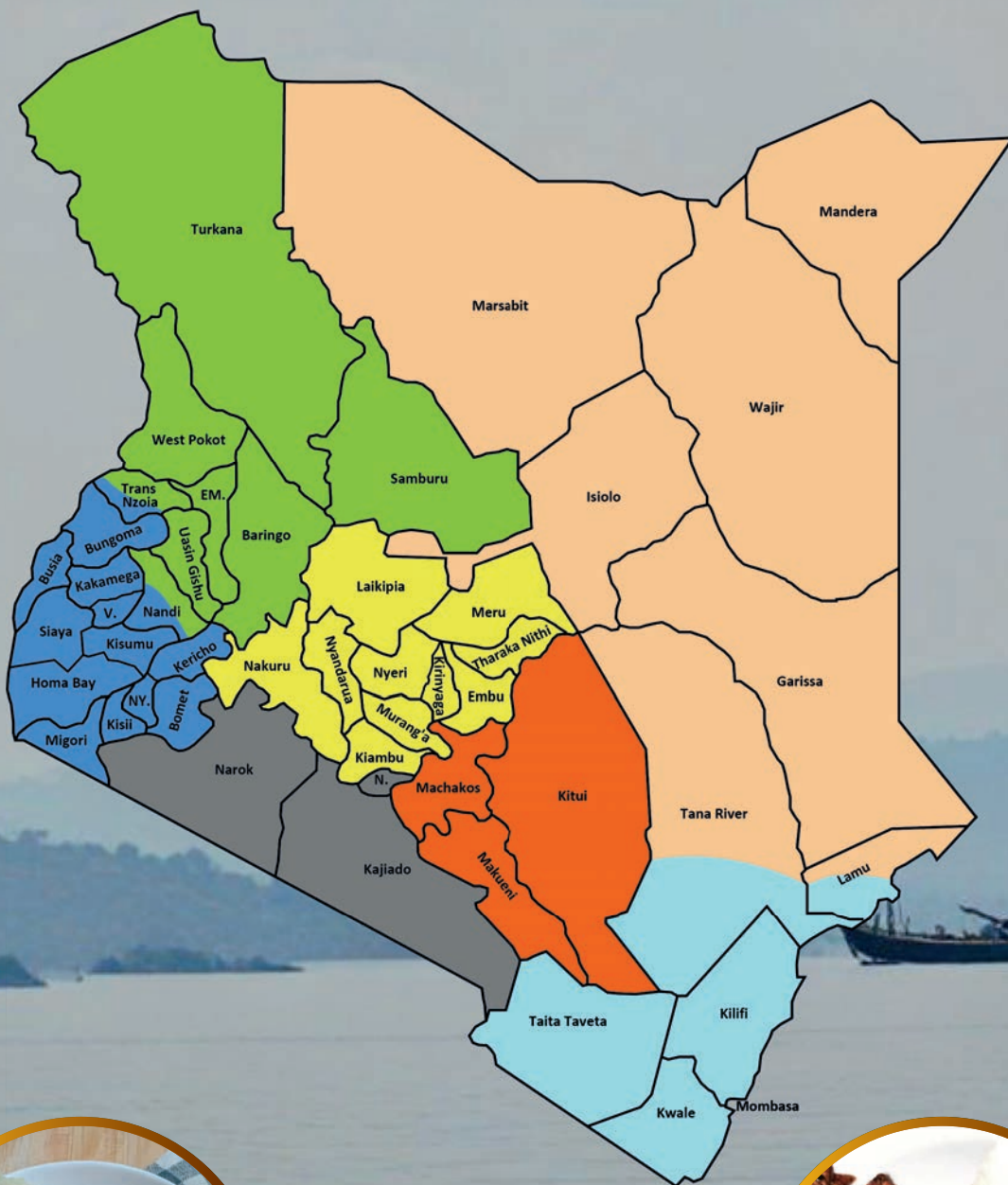
FoodLAND D2.4- Desk review report (2022).

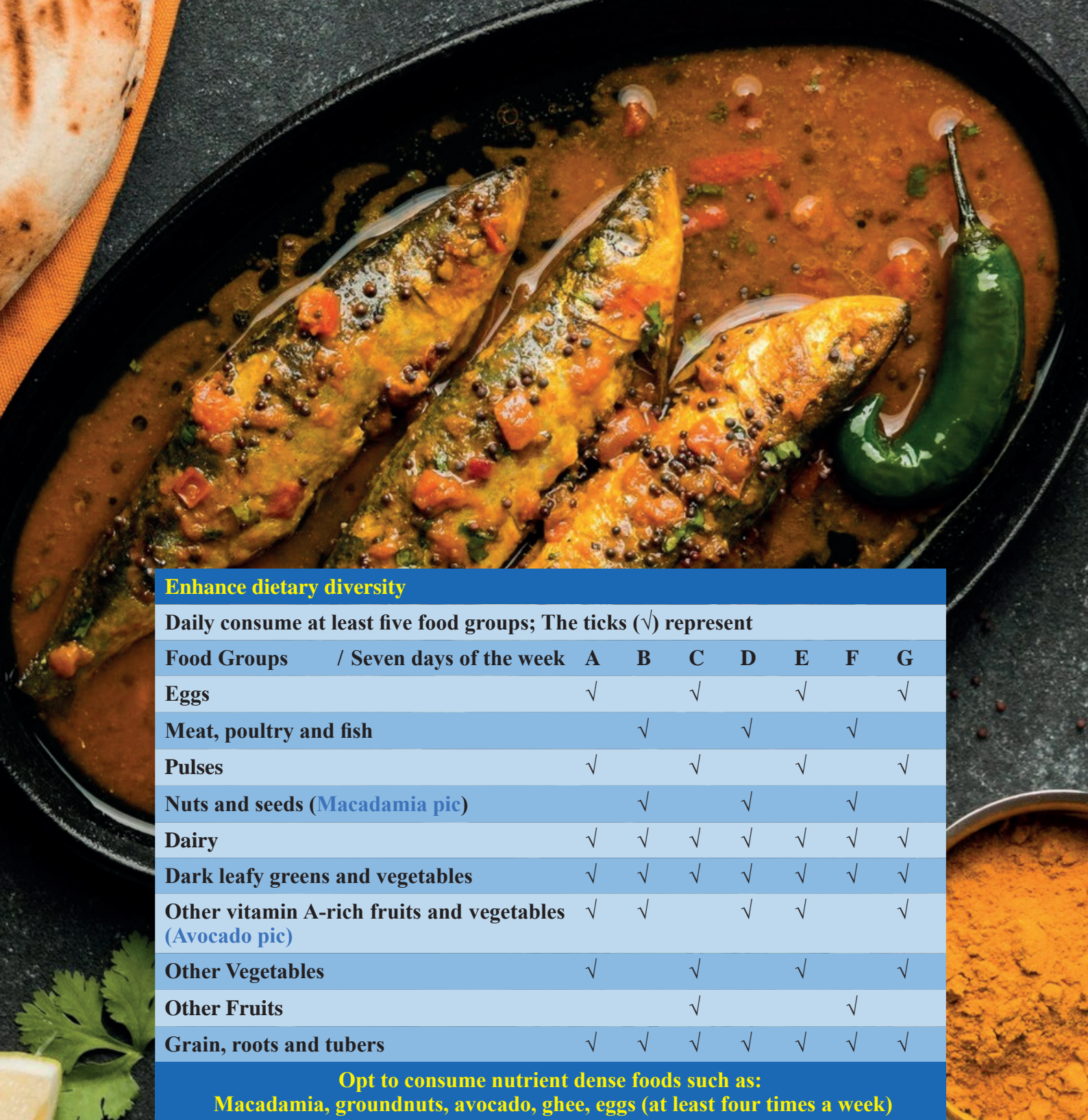
FoodLAND D2.6- Nutritional Recommendations (2023)

Purdy, A. F., Sifuna, P., Otieno, L., Larsen, D. A., & Shaw, A. V. (2020). *Examination of Mortality Due to Diabetes and Assessment of Diabetes-Related Healthcare Services in Rural Western Kenya*. <https://doi.org/10.21203/RS.3.RS-39511/V1>

County Government of Kisumu. (2023). *County Department of Agriculture, Fisheries, Livestock Development and Irrigation, County Agri-Nutrition Implementation Strategy (CANIS) County Government of Kisumu*.

National Bureau of Statistics Nairobi, K. (2023). *Kenya Demographic and Health Survey 2022 Key Indicators Report*. www.DHSprogram.com.





Enhance dietary diversity

Daily consume at least five food groups; The ticks (✓) represent

Food Groups / Seven days of the week	A	B	C	D	E	F	G
Eggs	✓		✓		✓		✓
Meat, poultry and fish		✓		✓		✓	
Pulses	✓		✓		✓		✓
Nuts and seeds (Macadamia pic)		✓		✓		✓	
Dairy	✓	✓	✓	✓	✓	✓	✓
Dark leafy greens and vegetables	✓	✓	✓	✓	✓	✓	✓
Other vitamin A-rich fruits and vegetables (Avocado pic)	✓	✓		✓	✓		✓
Other Vegetables	✓		✓		✓		✓
Other Fruits			✓			✓	
Grain, roots and tubers	✓	✓	✓	✓	✓	✓	✓

Opt to consume nutrient dense foods such as: Macadamia, groundnuts, avocado, ghee, eggs (at least four times a week)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 862802

Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission.



Contacts:
FoodLAND Project, University of Nairobi, Department of Food Science Nutrition and Technology
 E-mail: wkfoodland@uonbi.ac.ke || Website: <http://uonbi.ac.ke//foodland>
<https://foodland-africa.eu>