gain
Global Alliance for Improved Nutrition

INVESTING IN NUTRITION, INVESTING IN WOMEN

Priority Value Chains in Sub-Saharan Africa

Why invest in nutrition?

- Malnutrition in all its forms continues to be a major public health challenge worldwide, and progress on improving it has been very slow, with no country on track to meet global nutrition goals and the number of people affected by hunger or unable to afford a healthy diet rising in recent years[1,2].
- Malnutrition has major negative consequences for individuals and societies, including increasing mortality, reducing wellbeing, shortening lives, lowering economic productivity, and limiting educational attainment[3].
- Poor diets are estimated to be responsible for more deaths than any other risk factor, including smoking[4].
- Malnutrition also has large economic costs: the Food and Agriculture Organization estimates that malnutrition costs the global economy approximately **US$3.5 trillion per year, or 5% of global GDP**[5], and the OECD estimates that treating obesity-related diseases will cost **US$425 billion per year across 52 countries**[6].

Due to these high social and economic costs, and benefits that cut across sectors and last lifetimes, investing in nutrition is one of the most efficient ways to achieve and sustain human wellbeing.

With increased interest in healthy eating, particularly in emerging markets, nutritious foods also represent a market opportunity for companies. And, given increased regulation, such as soda taxes and bans on certain additives, focusing on nutritious foods can help reduce regulatory risk for a company. It also offers a way to achieve alignment with the 2X Criteria (see box below).

2X

Alignment with the 2X Criteria

The 2X Criteria challenge aims to **drive investment in women**. Investments align with the 2X Criteria if they meet basic Environment, Social, Governance, and Accountability requirements; meet at least one of the six 2X Criteria; and provide a time-bound commitment to meeting one additional criterion. One of the six criteria is giving women access to products/services that enhance their wellbeing. Nutritious foods fit clearly within this category – as long as the foods in question align closely to the nutrition needs of women in the target communities, like the foods highlighted here.

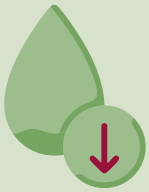
Source: https://www.2xchallenge.org/2xcriteria

Why is nutrition a key sector for impacting women and girls?

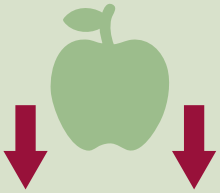
Women worldwide, but particularly in low- and middle-income countries, suffer a high prevalence of malnutrition.

About **80% of adult women** in Sub-Saharan Africa are estimated to be deficient in one or more key micronutrients – **161 million women**

About **10% of African women** are underweight



Over **a third of women and adolescent girls** in the region have anaemia



Levels of undernutrition are higher among women in poor households and living in rural areas[8].

Because nutrition underpins many health, educational, and employment outcomes, supporting nutrition for women and adolescent girls can improve their wellbeing and help them achieve their full potential.

Which are the key value chains to support in Sub-Saharan Africa to maximise nutritional impact on women and girls?

Applying a rigorous quantitative analysis (see box at right), GAIN has identified priority nutritious foods that are well-matched for the needs of Africa's women and girls. As shown in the figure below (in which higher scores indicate a more nutritious food), top bets include:

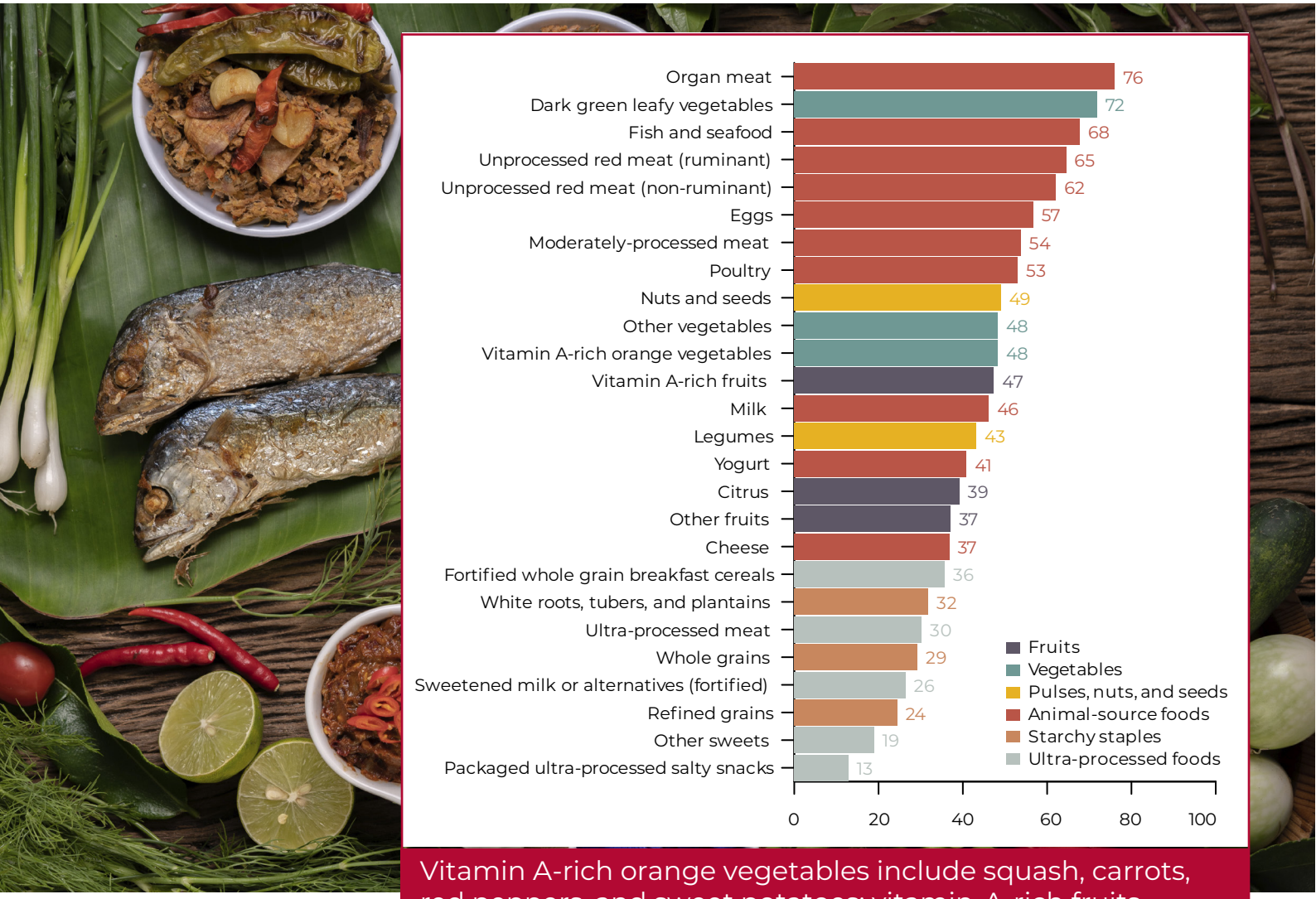
- **Organ meats**, in particular beef liver and beef and sheep offal. These foods are dense in multiple micronutrients, such as vitamins A and B12, iron, and zinc, which makes them particularly good for combatting night blindness and certain anaemias, and promoting growth and cognitive and immune functions. Yet they tend to be rarely consumed.
- **Dark green leafy vegetables**, in particular spinach and local greens like amaranth leaves, okazi leaves, moringa, and wild mustard greens. These foods are rich in folate, vitamins A and C, iron, calcium, potassium, and magnesium, while also being low in calories and fat and high in fibre, which make them good both for ensuring sufficient micronutrients are eaten and for obesity prevention. While they are already somewhat popular in Africa, there is room for boosting consumption.

Methods

The analysis consisted of four steps:

- Reviewing existing research to identify the key nutrition and health challenges faced by women and girls in Sub-Saharan Africa
- Using this to adjust the Nutritional Value Score, a holistic metric for scoring foods' nutritional value, to be tailored to the specific needs of women and girls in the region
- Using detailed data on composition of locally available, commonly consumed foods from Sub-Saharan Africa to calculate scores for **425 unique foods from 27 food groups.**
- Comparing these to data on foods currently consumed to highlight particular 'best bets' for increasing consumption through investment

- **Fish and seafood**, in particular small dried fish like anchovies and lake sardines, which are rich in multiple minerals (including iron, zinc, calcium, potassium, and magnesium) and omega-3 fatty acids. These help address iron-deficiency anaemia while supporting growth, cognition, and immunity, boosting energy levels, and reducing risk of osteoporosis and cardiovascular disease. Small fish eaten whole (sometimes as a snack, sometimes in addition to a meal) are particularly appropriate, as the consumption of the whole fish entails additional minerals, like calcium.
- **Unprocessed red meat**, such as goat, mutton, and ostrich, and **eggs/poultry**. These foods might not be highly recommended in all populations, but for many African women (who generally do not consume them in large amounts at present), they would contribute important vitamins (such as vitamins A, D, and B12) and minerals (like iron and zinc), as well as high-quality protein. Less than a third of African women eat meat on a typical day, and less than one quarter eat eggs, so there is considerable room for boosting demand.



Vitamin A-rich orange vegetables include squash, carrots, red peppers, and sweet potatoes; vitamin-A-rich fruits include things like cantaloupe melon, mango and papaya as well as local fruits; ruminants are cows, sheep, and goats.

In contrast, investment in grain value chains and roots/tubers would have comparatively less benefit for women's nutrition, as would any highly processed foods. While fruits are part of a healthy diet for all population groups, their relative additional nutritional benefit for African women is also lower than other food group options, like vegetables, legumes, nuts, and seeds. However, there are some specific local fruits, such as the African star apple, which are highly nutritious—and may have environmental sustainability benefits, as well (see box on the right). While dairy products are not among the most impactful foods, they are still highly nutritious options that tend to be underconsumed by African women.

Forgotten' Crops Offer Opportunities for Nutrition-Environment Synergies

Many of the most nutritious foods for women and girls in Sub-Saharan Africa are indigenous or traditional foods that may not be widely eaten today – so-called 'forgotten foods'. For example, African star apple (Chrysophyllum albidum) grows on trees in tropical zones and is rich in vitamin C, iron, zinc, calcium, potassium, and magnesium. Africa has a rich diversity of native dark green leafy vegetables, such as amaranth, eru or okazi leaves, moringa, and jute mallow; these tend to be very good sources of folate, vitamins A and C, iron, calcium, potassium, and magnesium, comparable to spinach.

Investing in these types of 'forgotten foods' can have major environmental sustainability benefits. For example, moringa trees are highly drought-resistant, nitrogen-fixing, and tolerant of many soil types; they can help combat soil erosion and deforestation, as they have deep roots and can grow on degraded land.

Amaranth similarly is drought-tolerant, adaptable to harsh conditions, and has deep roots. And continued cultivation of indigenous crops like jute mallow or okazi leaves can help to ensure their genes are preserved and that they can continue to adapt to changing conditions, helping increase resilience to climate change.

Which types of investment opportunities exist to support these types of foods?

Investments all along value chains can be used to improve accessibility, availability, and/or affordability of these foods. For example, investment in cold chains, which are very underdeveloped in Sub-Saharan Africa, would support all the foods mentioned here (aside from eggs). Investment in processors that freeze, can, or dry vegetables, or dry or smoke small fish, could help reduce losses, extend shelf life, and support better access across seasons and in remote areas. Because drying helps preserve and concentrate nutrients in many foods, a number of the most nutritious foods for women in Africa are dried (like okra, sardines, and other fish), and many green leafy vegetables (e.g., moringa) can also be dried. However, systems for doing so are often very basic, suggesting opportunities for increasing quality, safety, and quantity of these foods through investment in improved drying technologies and companies using them.

Investment in production of vegetables or livestock and fisheries products could boost availability and affordability, including of organ meats. However, because animal-source foods, particularly ruminant meat, can have higher environmental burdens, it is important to bring a sustainability lens to such investments and support adoption of the most sustainable options and production practices—and to avoid investments supporting highly processed meat-based products.

In Sub-Saharan Africa, many vegetables are grown by smallholder farmers, many livestock (particularly ruminants) are raised by small-scale ranchers, and many fish are caught or farmed by small-scale fishers. Thus, investments in these value chains can also benefit small-scale producers and their (often low-income) households. Investments can also support women along the value chain—another 2X Criteria. For example, GAIN and Sagana analysis has highlighted poultry value chains in Africa to be particularly beneficial to women, who make up as much as **70% of the poultry value chain in some African countries** but face challenges in accessing key inputs like feed, chicks, and veterinary services(9). Investments in these areas would be a double win for women as consumers and producers.

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