

Super Nutritious and Yummy

Studies across Africa and Asia show both achieved



Smart Food brief 1

Good for you - the planet - the farmer®

We achieved this through: Selection of Smart Foods and varieties that target the specific nutritional needs; working with cooks/communities to design together new, easy and culturally appropriate recipes; designing recipes that consider food combinations and preparations that maximize nutrition and bioavailability; and building awareness about Smart Foods and nutrition in fun ways.

India: Approximately 1,500 adolescent school children were provided a millet-based mid-day meal, balanced with pigeonpea and vegetables.

A random sample of 10% of the children showed:

- **50% faster growth** was observed in just 3 months in the children being fed the millet-based meals as compared to those eating fortified rice-based meals.
- The children rated the meals at **4.5 or higher out of 5 for taste**; this included even little millet served as rice.

Tanzania: 2,800 school children had finger millet and pigeonpea meals included in their menu.

- **80% and 70% changed their negative perception** of finger millet and pigeonpea respectively.
- >95% of the students wanted to eat the finger millet and pigeonpea dishes at school. 84% of the students wanted to include pigeonpea 2-7 times a week and 80% of the students wanted to include finger millet on all seven days in school meal.
- The recipes were significantly higher in energy, protein, total fat, iron, zinc, calcium, and magnesium.

Tested processed products in urban markets:

- In one week, the **revenue of one processor increased by US\$ 2,672** creating a market demand of almost 1,000 kg of grain per week.

Kenya: We reached parents of over 80,000 households which impacted over 20,000 children below age 2 with Smart Food nutrition messages. In just one year, women and children's behaviour changed significantly towards a more micronutrient-rich diet with:

- **15% increase in diet diversity for women.**
- Almost **80% increase in diet diversity for the children.**

Myanmar: A sampling showed that refined white rice constituted 75% of the calories in household plates. Within two weeks of including millets and pigeonpea in the diets of children aged 6 to 23 months, a small sample (needs to be repeated with a large sample) showed.

- There was a **positive impact on the extent of wasting, stunting and underweight.**
- Also sensory evaluations showed all recipes scored on average **above 3 out of 5**, (including eating little millet as rice) suggesting that the recipes were highly accepted by the community.



Smart Food is coordinated globally by:



What you probably don't know about Millets and Sorghum

Highly nutritious

- **Finger millet has 3 times the amount of calcium in milk**
- A few of the millets have **very high iron and zinc** (much higher than in meat and although plant-based iron has lower bioavailability, the high iron millets can provide as much iron as red meat, and provide close to the recommended daily allowance of iron)
- **Low glycemic (GI) index:** Millets and sorghum have low GI and hence important due to rising diabetes
- **Good levels of protein:** Legumes have low levels of two of the essential amino acids while millets and sorghum have 50% higher of these; together they create a complete protein when combined with legumes
- **High fiber;** and more.



Climate smart

- Serve as an adaptation and mitigation strategy for climate change which is critical
- A low carbon footprint
- Survive in high temperatures
- Survive with very little water; pearl millet is often described as the last crop standing in times of drought.

Better livelihood

- A good **risk management strategy for farmers.**
- Potential to significantly **increase yield.**
- **Multiple, largely untapped uses** from food, feed and fodder, brewing, and biofuels.
- Potential to grow markets globally; they also fit into some of the biggest global health food trends – being a super food, ancient grain, low GI, gluten free, high fiber and good for weight loss.

Lessons learnt: How to do it to maximize the benefits of feeding programs

Just adding millets or other foods and assuming this is a healthy meal is not good enough

The way millets are brought into meals needs the understanding of:

- what foods need to be combined that help absorb the nutrients
- which preparation and cooking methods increase the nutrition value
- which millets have which nutrients and how to combine these with other foods for a balanced meal
- selecting the varieties with the highest nutrient value (eg; iron levels can double based on which variety is selected).

Comparison of the typical school mid-day meal of fortified rice and sambar with the millet based meals (based on laboratory testing of the meals)



Smart Food Approach – how we can have extensive impact

Smart Food is food that fulfils all criteria of being:

- good for you (nutritious and healthy)
- good for the planet (environmentally sustainable); and
- good for the farmer (e.g., climate smart, potential to increase yields, multiple uses).

Smart Food is a solution that contributes to **addressing some of the largest global issues** in unison: poor diets (malnutrition to obesity); environmental issues (climate change, water scarcity and environmental degradation); and rural poverty. Smart Food is also a **business solution**. To achieve this, we need to popularize Smart Food globally to ensure the required investment, R&D, and support. This means driving major new industries.

The approach is to build consumer demand – but also encompass all segments of the value chain, developing a conducive and supporting environment and engaging farmers to ensure they benefit appropriately.

A key objective of the Smart Food initiative is to diversify staples across Africa and Asia. By focusing on staples, often 70% of the plate and eaten 3 times a day, this is how we can have the biggest impact. To achieve this, we need a dedicated focused effort initially on a couple of Smart Foods to not just popularize but bring into mainstream.

The Smart Food **Vision** is a world where food is ‘Smart’ – healthy, sustainable on the environment and good for those who produce it, especially the smallholder farmer and the **Mission** is to be a catalyst in breaking the food system divide so that Smart Food is a normal and major part of our diets.



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