How are they Good for You?
These Smart Food crops are highly nutritious and targeting some of the largest micronutrient deficiencies and needs, especially of women and children.

- Iron, zinc and folic acid - Pearl millet has very high levels and bioavailability studies have shown that they will provide the average person’s daily requirement of iron and zinc.
- Calcium - Finger millet has 3 times the amount compared to milk.
- Affordable protein - provided by grain legumes.
- Low Glycemic Index - which means escalating levels of diabetes – can be avoided or managed by sorghum and millets because they have low Glycemic index.
- High antioxidants - Fights against heart diseases, life style disorders and cancer
- Gluten Free

How are they Good for the Smallholder farmer?
Smart Food is Good for the smallholder farmers because:
- Their climate resilience means they are a good risk.
- Developing Smart Food signature products
- Low Glycemic Index
- Legumes have an important contribution to soil productivity increases.
- They have a lot more potential.
- Unlike the other crops they have not yet reached a yield plateau and have great potential for productivity increases.

How are they Good for the Planet?
These are also crops critical in the drylands that will best survive the harsh environments and are most resilient hence climate smart crops. Basically, millets are the last crop standing in times of drought. The millets, sorghum and legumes have close to the lowest water and carbon footprints of all the crops. The application at country level:

1. Creating the Smart Food concept and messaging
2. Creating a demand pull with consumers
3. Ensuring smallholder farmers and rural communities benefit
4. Health benefit testing: Identification of knowledge gaps

The major constraints
The major constraints for these dryland cereals and grain legumes are that holding them back from reaching their full potential are – very little investment, significantly underdeveloped value chains, and the image of the food as old fashioned, especially the case for millets and sorghum.

More investment and policy support have significant potential to increase yields, provide better nutrition, fulfill multiple uses (food, feed, biofuel, brewing), develop modern processed food products and integrate farmers into the value chain.

The APPROACH
A new approach is needed if we are to make a major change and bring Smart Food into the mainstream. This approach is based on selecting some Smart Food and have a ‘focused avid investment’.

Implementation at country level:
1. Creating the Smart Food concept and messaging
2. Creating a demand pull with consumers
3. Ensuring smallholder farmers and rural communities benefit
4. Health benefit testing: Identification of knowledge gaps

Aims of the Smart Food initiative
A Smart Food initiative has been developed with the aim to mainstream Smart Food – bringing diversity in diets and on the farm. This is to make a major breakthrough in overcoming malnutrition and rural poverty, and being more sustainable on the environment.

The approach
The approach is based on creating a demand pull by the consumer. This needs to be complemented with accelerating investments and support for the research and development of value chains for Smart Food.

- It is also critical to ensure that smallholder farmers and rural communities in developing countries benefit from the market growth and can move out of poverty and their hidden hunger.
- Efforts will focus initially on millets and sorghum as well as grain legumes.

Significant impacts and mainstreaming Smart Food can only be achieved through partnership. This requires a wide variety of players: from the food, retail and catering industries (new entrepreneurs to multinational); the health industry; marketers; social media players and governments to development agencies, foundations and NGOs.

Smart Food helps solve a number of our biggest issues in order: rural poverty, malnutrition and adaptation to climate change and environmental degradation.

A major impact can be made if we not only popularize but also mainstream Smart Food – bringing diversity in diets and on the farm. This must be undertaken, ensuring rural communities benefit through better health and livelihood improvements. Other global benefits will be new market development and growth and more sustainable diets.

Partner on the Smart Food initiative
Smart Food is a global initiative founded and coordinated by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

Leading the Smart Food initiative globally: Smart Food is a global initiative founded and coordinated by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

Working in the drylands for 45 years with a specialty in Dryland Cereals and Grain Legumes.

Innovating to overcome poverty, hunger, malnutrition and environmental degradation.

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How are they the Good for the Smallholder farmer?
Smart Food are good for the small holder farmers because:
- Their climate resilience means they are a good risk management strategy.
- Legumes have an important contribution to soil nutrition and women and other crops, increase the water use efficiency of the entire crop cycle.
- Their multiple uses and untapped demand means they have a lot more potential.
- Unlike the other crops they have not yet reached a yield plateau and have great potential for productivity increases.

The major constraints
These major constraints for these dryland cereals are the following ratios and grain legumes that are holding them back from reaching their full potential are—very little investment, significantly underdeveloped value chains, and the image of the food as old fashioned, especially the case for millets and sorghum.

More investment and policy support have significant potential to increase yields, provide better nutrition, fulfill multiple uses (food, feed, biofuels, brewing), develop modern processed food products and integrate farmers into the value chain.

Implementation at country level:
1. Creating the Smart Food concept and messaging
   - Viral campaign to create a buzz around millets through social media, mass media and reality shows and ambassadors.
   - Facilitate the health, food service and media industries through engagement and information sharing.
2. Creating a demand pull with consumers
   - For example: Connecting farmers to the value chain: Linking Farmer Producer Organizations with supply processors and other users.
   - On-farm value addition before selling.
   - Ensuring the millets are eaten to avoid or overcome health issues: Working with health workers to introduce millet into the advice.
   - Developing menus to include millets into midday meal feeding programs and implementing with a school campaign.
   - Advocacy for supporting policies: Clarify supporting policies needed, supported documentation, and a traveling roadshow of dynamic science-backed presentations.
   - Advocacy for research development: Through interactions and awareness raising and broader promotion with NGOs and funding agencies.
3. Ensuring smallholder farmers and rural communities benefit
   - Support on farm: Incorporate nutrition and processing qualities into cultivar evaluation process and support farming practices.
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The approach
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Efforts will focus initially on millets and sorghum as well as grain legumes. Needs and market potential will lead to a geographic focus on countries where these crops traditionally grew (Africa, India and other areas of Asia), as well as the large, influential markets in the West (USA, Europe and Australia).

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**Kadoorie Farm & Botanic Garden**

**March 2017**