2018 UN International Year of *Lets Millet*

smart food that is good for you, the planet and the farmer
In Summary:

**Staples make the BIG difference**
Millets were the staple across much of Africa and Asia

**Smart Food is critical in the solution**
Millets are a Smart Food because they are:

- High in iron
- High in zinc
- High in folate
- High in protein
- Low glycemic index
- Prevents and manages diabetes
- 3x more calcium than milk
- 2x more protein than milk

Mainstreaming Millets back as a staple we tackle some of the biggest global issues in unison

Developing countries, major impact on:
- Nutrition & Resilience & Income

Developed countries, contribution to:
- Migration & Obesity

Achievable through:
- Driving consumer demand
- Connecting the whole value chain including back to the farmers.

**YEAR OF MILLETS**

**WHY**
- Good for you
- Good for the planet
- Good for the farmer

**HOW**
- Millets can grow with minimal fertilizers and pesticides
- Survive with less water
- Typically the last crop standing in times of drought
- YIELD POTENTIAL 3x
- Multiple uses

**TARGETS**
- 100% more
- 20% less
- 30% less
- 50% less
- 75% less
- 90% less
- 100%
- 120% more
- 130% more
- 150% more

**TO ACTION**
There is **Urgency** to drive millets now because:

- **Options to marginal farmers** are very few and millets provide this in the drylands – 40% of the world’s land.

- **The drylands** are not the low hanging fruit and will take the **longest to reach the SDGs**, so need action **now**.

- **Climate Change** will see more extremes of droughts and higher temperatures. Millets will be more important as a solution for these farmers. Millets are basically the last crop standing in times of drought and withstand extreme high temperatures.

- **Malnutrition and increasing non communicable diseases** are critical and millets target some of the biggest needs directly, e.g.: anemia, calcium, zinc, folate and protein deficiency, and diabetes.

Millets are highly nutritious, have a low carbon footprint and due to their resilience and survival with minimal water, are a good risk management strategy for the farmers. As a result **millets tackle in unison some of the biggest global issues:**

- Poor diets and health
- Environment issues (e.g. climate change and water scarcity)
- Rural poverty.

Millets were a traditional crop across much of Africa and Asia. It was also a staple. If millets are **mainstreamed back as a staple** they can have a **major impact on the biggest global issues.**

Millets fit the current biggest global health food trends so important to capitalize on these now to drive the markets and R&D. E.G they are: Gluten free, Super food, Ancient grain, Low glycemic index and good for losing weight.
1) **Millets are highly resilient**
   which will become an even more critical solution with climate change.

2) **Millets provide a viable option for the marginal farmers**
   Millets can survive with minimal water - poor soils - increasing temperatures - no pesticides - very little fertilizers. This makes them affordable - viable for poor marginal farmers - a good risk management strategy.

3) **Millets are grown in the majority of countries**
   And are a **traditional/ancient grain** across many countries in Africa, Asia and the Middle East.
4) Millets are: **Good for you**

highly nutritious and targeting some of the biggest nutrition and health needs globally.

- High in Iron, Zinc and Folate
- High in calcium
- Low GI (good for avoiding and managing diabetes)
- High in protein, dietary fiber, antioxidants.
- Gluten free.
5) **Millets are:** *Good for the planet*
- Grows with minimal fertilizers and pesticides
- Survive with less water
- Grows faster putting less stress on the environment.
6) **Millet**s are: **Good for the farmer**
- Can survive in **hot dry** climates
- Resilient
- Climate smart
- Potential to increase yields 3X
- Multiple uses
7) **Millets fit many of the major global health food trends:**
   - it’s a super food, ancient grain, low glycemic index and gluten free.

8) **Millets align with some of the big initiatives**
   EG Adaptation of African Agriculture, AfDB TAAT (Technologies for African Agricultural Transformation)

9) **Millets can be eaten in many forms**
   From the same as rice, to porridge, flour for all bakery products, soup etc.

10) **Millets have untapped demand with multiple uses and low awareness**
    Millets can be used as human food, fodder/feed, biofuels and brewing.
11) Millets are highly resilient
which will become an even more critical need with climate change.

12) Millets can help break the food system divide –
bring more diversity in diets and on farm

We have a food system divide with the majority of investment in just 3 major crops – rice, wheat and maize - the R&D, big company investment, policy support, and even the development aid.

50% of the world’s calories and protein are from the Big 3. 45% of private industry investment in agriculture globally goes into 1 crop – maize.

We need to, not just popularize but “mainstream” other foods - to move from the Big 3 and create the Big 5 and eventually the Big 7 and so on.

Millets are the optimal crop to mainstream because it is:
- A traditional crop across much of Africa and Asia
- It fits the criteria of being good for you, the planet and the farmer
- It is highly resilient and will become an even more critical solution with climate change
- It fits many of the major global health food trends: it’s a super food, ancient grain, low glycemic index and gluten free
Millets tackle some of the biggest global issues in unison

- Poor **diets and health**.
- **Environment** issues (climate change, water scarcity and environmental degradation).
- **Rural poverty**.
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 modern convenience products by:
- Developing Smart Food signature products
- Raising awareness among processors
- Overcoming barriers like knowledge, equipment and grades/standards.

Facilitate the health, food service and media industries through engagement and information sharing

2. Creating a demand pull with consumers

Support on farm: Incorporate ‘nutrition’ and ‘processing qualities’ into cultivar selection process and support farming practices

Connecting farmers to the value chain:
- Linking Farmer Producer Organizations with supply processors and other users
- On-farm value addition before selling
- Developing branded franchised millet products with women self-help groups

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

4. Health benefit testing: Identification of knowledge gaps
**YEAR OF MILLETS**

**WHY**

- **Build a strong scientific case** for how millets are good for you, the planet and the farmer.
  - => internationally contributed publication and on-line platform
  - => develop a certification scheme for foods fulfilling all: good for you, the planet, the farmer

- **Target consumers** to develop a positive image and buzz around millets:
  Showing both the ancient and traditional origins and the modern uses.
  Also promote the value of millets.
  - => Reality TV show run across countries
  - => Measure demand in developing and developed countries

- **Engage other key value chain actors** promoting the value of millets
  - food processors
  - food service industry
  - policy makers
  - => Millet Catering Manual produced
  - => Activities undertaken by chefs associations in developing and developed countries
  - => Track increase in implementation

**HOW**

[Link to video](https://www.youtube.com/watch?v=7iLB9DNgQM&feature=youtu.be)
- **Rural communities benefit** – nutritionally and livelihoods
  - Initiatives to connect millet farmers closer into the value chain: producer groups aggregating supplies, primary level processing, secondary level processing.
  - Integrate millets and diet diversity into rural health schemes with games and information.
  => Track some selected priority country rural areas.
Background Information
Smart Food Reality TV show in Kenya


https://www.youtube.com/watch?v=7i-LB9DNgQM

IN BRIEF: Kenya Switch to Sorghum

https://youtu.be/qtkqrlVm_Zk

Sprouting Grains for Stronger Bones: The Power of Finger Millet


Kenya: Going Against the Grain

https://youtu.be/kVXZK8FrEYo

Senegalese women revive appetite for traditional grains

http://www.icrisat.org/senegalese-women-revive-appetite-for-traditional-grains/
Birdseed Turned Superfood May Help Curb India’s Diabetes Scourge


To fight desertification we need to drive diversity on farms and plates

http://www.icrisat.org/to-fight-desertification-we-need-to-drive-diversity-on-farms-and-plates/

Millets, Sorghum, and Grain Legumes: the Smart Foods of the Future


Why you should cook a batch of this ‘new’ ancient grain

http://www.icrisat.org/why-you-should-cook-a-batch-of-this-new-ancient-grain/

Sorghum: Health food, sweetener, now clothing dye

http://www.icrisat.org/sorghum-healthfood-sweetener-now-clothing-dye/

Promoting Dietary Diversity in Kenya through Cooking and Nutrition Extension

"Millet" is a common term to categorize small-seeded grasses that are often termed nutri-cereals or dryland-cereals.

- Kingdom: Plantae - Plants
- Subkingdom: Tracheobionta - Vascular plants
- Superdivision: Spermatophyta - Seed plants
- Division: Magnoliophyta - Flowering plants
- Class: Liliopsida - Monocotyledons
- Subclass: Commelinidae
- Order – Poales
- Family – Poaceae (also Gramineae or true grasses)
- Subfamily: Panicoideae
- Subfamily: Chloridoideae
- Subfamily: Paniceae
- Tribe: Eragrostideae
- Tribe: Andropogoneae
- Tribe: Paniceae

**Coix:**
- Job's tears
  - Genus – Zia
  - Genus Z. mays
  - Maize

**Genus - Sorghum**

- **Panicum miliaceum:** proso millet, common millet, broom corn millet, hog millet, yellow hog, white millet
- **Pennisetum glaucum:** pearl millet (kambu or bajra in India)
- **Setaria italica:** foxtail millet, German millet (thinai, kang or rala in India)
- **Digitaria spp.**: white fonio, black fonio, raishan, Polish millet
- **Echinochloa spp.**: Japanese barnyard millet, Indian barnyard millet, sawa millet, burgu millet (kuthirai vaali, bhagar or varai in India)
- **Panicum sumatrense:** little millet (samai in India)
- **Paspalum scrobiculatum:** kodo millet (varagu in India)
- **Urochloa spp.** (also known as Brachiaria): browntop millet (U. ramosa, dixie signalgrass), Guinea millet

**Finger millet –**
- Eleusine coracana (also mawere, raji, nachani, mandwa)

**Teff –**
- Eragrostis