Why it is critical to Nutrition-Proof the Drylands
In sub-Saharan Africa and South Asia

Two-thirds of undernourished people worldwide live here

**SUB-SARHAN AFRICA**

237 MILLION

**SOUTHERN ASIA**

277 MILLION

Source: The Sustainable Development Goals Report 2019 published by the UN

Climate change can worsen the situation affecting food supply and plant nutrient content

Climate change and its large uncertainties poses potentially serious threats to agricultural water management, hitting hardest in poor, semi-arid areas that already suffer from erratic water variability.

FAO publication: Climate Change, Water and Food Security

High CO₂ reduces crop nutrients in current staples

Reduction in nutrient percentage under CO₂ levels expected in 2050

<table>
<thead>
<tr>
<th>Cereal</th>
<th>Zinc</th>
<th>Iron</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>-9.3</td>
<td>-6.3</td>
<td>-5.1</td>
</tr>
<tr>
<td>Rice</td>
<td>-6.3</td>
<td>-5.2</td>
<td>-3.3</td>
</tr>
<tr>
<td>Maize</td>
<td>-7.8</td>
<td>-5.8</td>
<td>-5.2</td>
</tr>
<tr>
<td>Soybean</td>
<td>-5.1</td>
<td>-4.6</td>
<td>-5.2</td>
</tr>
<tr>
<td>Soybean</td>
<td>-4.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Nature

What we do

**Invest in nutritious, climate-resilient dryland crops**

- Dryland cereals are rich in iron and zinc, essential minerals and vitamins.
- The legumes are rich in protein and provide important macro- and micro-nutrients.
- The cereals and legumes together make for a complete protein with all the essential amino acids.

Deploy genomics and molecular biology technologies to **decode nutrition aspects** and speed up conventional breeding.

**RapidGen breeding** can reduce breeding cycles by 40% for most crops.

(Conventional breeding take 10 years with 6-7 years spent in seasonal generational advancements to arrive at the elite lines that go for testing and release as varieties).

ICRISAT works across the agriculture value chain (turn page for ICRISAT approach).

Read more on exploreit

**Benefits of investing in nutrition**

**POVERTY**

Children who escape stunting are 33% more likely to escape poverty as adults

**SCHOOLING**

Early nutrition programs can increase school completion by one year

**EARNINGS**

Early nutrition programs can raise adult wages by 5-50%

**ECONOMY**

Reduction in stunting can increase GDP by 4-11% in Asia and Africa

Our approach: Seed to Diet

Breed improved seed varieties
- More food supply: High yield & stress resistant
- Safe to eat: Aflatoxin-free
- Nutrient-rich: Biofortified

Develop improved seed systems for efficient seed delivery to farmers

Foster nutripreneurs
- Food processing training
- Supporting start-ups (ready to cook and ready to eat nutritional food)

For better livelihoods and community diets
- Youth and women focused value chain development

Sustainable and healthy farm systems
- Good Agricultural Practices reduce aflatoxin contamination pre- and post-harvest
- Bioremediation of waste water

Healthy Soils + clean water = Safe produce + higher nutrients in the food

Study diets
- Nutrition impact studies
- Behavioral change research focus on health benefits. Special focus on dietary needs of mothers and children below five

Advocate diets, shape policies
- Create a market pull through Smart Food initiative
- Drive dietary diversity