Fertilizing Crops to Improve Human Health

Countries are implementing successful partnerships worldwide to develop macro and micronutrient fertilization.

**India**
- Up to four times higher yields for smallholder farmers in Karnataka State, through the Bhoochetana government program in partnership with ICRISAT. Fertilizers were biofortified with zinc, boron, and sulphur. Yields for rabi crops increased up to 345% with sunflower, 320% ragi, 245% groundnut, 197% maize, 165% soybean and 171% sorghum.

**Finland**
- **Combating heart disease**
  - From 1984, the government mandated the addition of selenium to all multi-nutrient fertilizers in order to help combat heart disease.

**China**
- **Eradicating Iodine deficiencies through fertigation**
  - Adding potassium iodate to a regular canal water in Xinjiang province resulted in a three-fold increase in soil iodine levels, a 50% reduction in infant mortality and an almost total elimination of iodine deficiency disorders in the area.

**Australia & New Zealand**
- **Functional foods: selenium enhanced**
  - Biofortifying wheat with selenium fertilizers helps enhance nutrient levels and market the wheat as a well-linked human health benefit. Broccoli is one of the most promising anti-cancer foods.

**Turkey, India, Australia & South Africa**
- **More grain nutrients and production in semi-arid regions**
  - Zinc deficiency in wheat often occurs when water supplies to soil are impaired due to limited precipitation and irregular distribution of rainfall. Maintaining a high amount of plant available Zn in soil in semi-arid regions contributes to grain Zn concentration and also better grain yield. Over 8 million ha of land in southern Australia were brought into grain and the pasture production in the 1950s after recognizing that micronutrient deficiencies were a major constraint to profitable yields.

**Smart fertilization practices provide the necessary micronutrients for healthy plants and balanced human nutrition.**