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Millets as a Super Crop for Sustainable Agriculture

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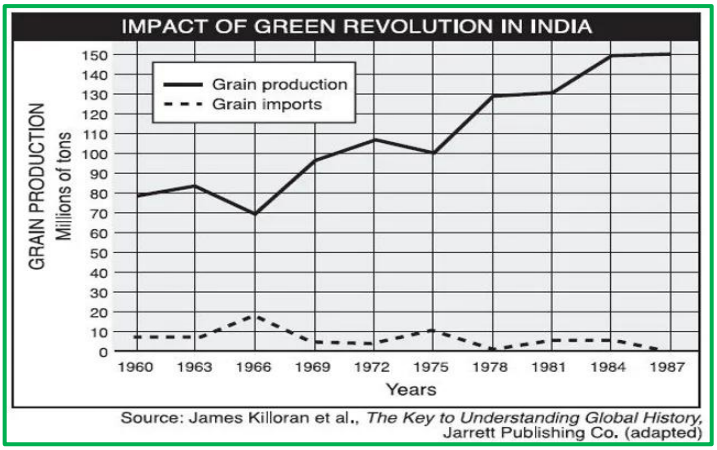
In spite of 60% of Indian population working in agriculture still agriculture contributing only 18% in Indian economy. Farmers are in so terrible condition that in 2021 a total of 10,881 farmers committed suicide, 29 farmers every single day entire year.

Reason is:
a) Yield is going down;
b) Climate change is ruining lands;
c) Markets have been swinging badly that majority of farmers never achieve financial security.

On the other side, our groundwater levels have reached dangerous levels, most fertile lands of our country are being ruined due to pesticides and fertilizers and most importantly with each passing day the food that we eat is turning into poison due to excess pesticides and fertilizers. But now that an absolutely revolutionary set of crops is coming up and these crops not only just change the life of farmers but even store the disastrous state of soil in India, these crops are known as millets. Nowadays millets are so special that they are called as 'Super crops of the 21st century'.

Story of Indian Agriculture

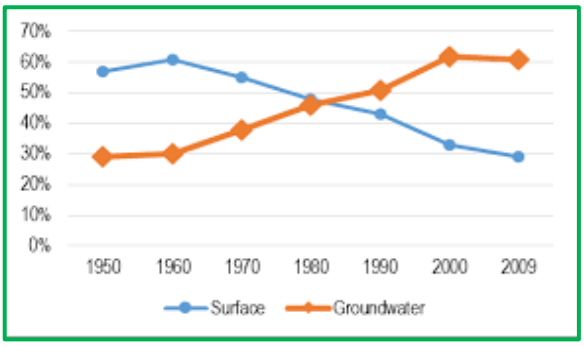
Dates back to 1960s India was facing a massive food shortage, India requested 10 million of wheat from united states to avoid food shortage but President Lyndon Johnson resented this as due to Vietnam's war and about 3 million people in India died due to hunger and this is when green revolution has initiated and where implementation of most efficient and high yield system to become sufficient with our foods supply and this initiative implemented with importing machinery and farming techniques from abroad using fertilizers and pesticides and many other methods to increase the capacity so that to feed country people properly. And there was 'Rice Wheat cropping system' where rice grown in monsoon season and in same field wheat grown in winter season and the reason why this system followed because it increases the crop productivity, reduces labor costs and has an insane economic benefit as compared to other cropping systems. And this super-efficient system was the reason why India was able to come out of the food shortage problem back in 1960s.and today rice wheat cropping systems have become the backbone of the Indian farming system especially in the northwestern region i.e., Punjab, Haryana, Uttar Pradesh. And this rice wheat cropping system is performed over an area of 9.2 million hectare. In India rice is not just a commodity but a staple food for 70% of Indian population and rest of the population consumes rice along with wheat and other grains so in short rice and wheat not just a crop but a critical part of both the economy and the diet of Indians.



But the same rice wheat system that became a savior for India in 1960s as of today it has laid the foundation of some very very dangerous consequences.

Because:

a) Ground water system: Water consumption in rice is about 1900-5000 litre of water per kg. of food produced while that of wheat is 900-2000 litre of water per kg of food produced and this water is from ground water sources and not from river, lake, rain, etc.



Earlier in 1960, 60% of our water needs come from surface water and only 30% came from ground water but now over the last 50 years this ratio has been reversed and 60% of our requirement comes from groundwater and 30% comes from surface water.

b) Deterioration of soil health: Rice requires puddling, intensive tillage leads to soil erosion, nutrient depletion and loss of soil organic matter. And the heavy use of fertilizers and pesticides causes soil acidification and nutrient imbalances which reduces the soil fertility and its productivity.

c) Green house gas emission: Agriculture responsible for 16% of greenhouse gas emission and 37% of emission comes from rice alone. Hence these are the problem due to rice wheat cropping pattern.

So, the solution for this is our super crop, Millets.

Millets are the nutritious whole grain that are packed with protein, antioxidants and nutrients commonly known as jawar, bajra, ragi, foxtail and little millets.

They are known to be the super crops of 21st century because:

a) Water consumption: They barely require 650- 1200 litres /kg of water. Most millets can grow on low fertility soil and dry lands and pearl millets can be grown on sandy soils, finger millets can be grown on saline soils and barnyard millets can even grow on problem soil as in soil that have dryness, wetness, steepness, acidity or even salinity. These crops can tolerate drought and floods and it can even tolerate 42 degrees Celsius. While rice requires 1250 mm of water ragi requires 350 mm of water, no of irrigation in rice is 18 while in ragi is about 6. So, if less rainfall is there it would affect the production of rice but millets can grow well in less irrigation also.

So if millets are grown ground water can be restored, barren land across India can be used for it cultivation and these crops are not over dependent on rains

b) Pest free crop: Don't get affected by pests and even stored pest so if less pesticides used less toxin sink into soil this leads to better soil health and even ground water not get contaminated due to pesticides

c) Improves the soil health

d) Have global demand

Because they are extremely healthy as compared to rice and wheat.

i) Millets helps to control blood sugar control (it has lower glycemic index compared to rice and wheat and control and reduce the risk of type-2 diabetes.)

ii) Millets are gluten free and great source of dietary fiber which can help healthy digestion, prevents constipation and promotes the growth of beneficial gut bacteria. So, helps in better skin quality and improves nutrient absorption in your gut.

iii) Millets lowers the risk of chronic diseases as it contains a range of vitamins and minerals such as magnesium, iron and zinc which are important for overall health and help improve risk of chronic diseases such as heart disease and stroke. Millets have 10 times more calcium than wheat and rice as much protein as wheat and as many calories as other grains.

So due to all these reasons millets are known as Supercrops of 21st century.