



Agriculture Is the Key to India's Prosperity

By Priyadharshini Varadharajan | June 24, 2020

Agriculture. An activity that turned into livelihood for the ancient humans and gave them an alternative of settling down rather than constantly wandering in search of food. Once they understood they don't have to spend the entirety of their lives searching for food and can just grow them in a piece of land, they transformed from nomadic beings to sedentary beings, bringing about the Neolithic Revolution. For the changing climatic conditions and the availability of different landscapes around the world, we can observe different agricultural methods. Seasonal and annual crops can also be produced and transported to those countries who lack the conditions to plant them. India is one of the major contributors to the agricultural sector and is said to be looking towards tremendous growth.

It is well suitable for agriculture due to the diversity observed in the 20 Agri-climatic regions and 46 soil types out of a possible 60. It is one of the top 15 major exporters of agricultural products. Ignoring the trade aspects and the revenue it generates, India is massive in terms of **population**. There are 1.38 billion people living in an area of 3.2 million square kilometres. It is the major source of livelihood for an enormous group of people and increases employment opportunities too.

With the global population predicted to rise to 9.6 billion by 2050, food supplies need to rise along with the population to provide for the demands. The demands put on India are going to be great due to the internal and external trade it has going currently. This is why agriculture could be a game-changer for India in the upcoming years and we need as many great minds we can get to work on improving the economy of India and increase the food reserves of our country.

How many people are actually involved in the agricultural sector?

A government initiative called **e-NAM** (e- National Agricultural Market) is an online trading portal that unites farmers all over the country by means of existing Agriculture Produce Marketing committees. e-NAM recorded around 16.6 million farmers and 131,000 traders as of May 2020, according to a report published by **IBEF** (India Brand Equity Foundation). Well, they are not sufficient. What we lack is not the manpower but knowledge of management. With the manpower, we possess and adopting smart farming strategies we can effectively contribute to the rise of the **economy**. The farming done in India is a

product of poor funding, despite it being a major factor for our economic welfare.

In reality, it is not the first choice as a career option or profession for the youngsters in our country. The unpredictability of the entire crop turning up for harvest is a major red flag. The livelihood of the individual depends on that one yield produce which if found to have any issues might not reap the benefits for the farmers. Also, land. There is not very much land left in our country. This has been the plot of a lot of films from India too. Rich landscapes have been utilized for urbanization, leaving behind minuscule areas for agriculture. And many of the leftovers are not suitable for agriculture. Farmers face a lot of heat on the field and off the field.



They are not paid properly, do not get their demands met, and are still expected to do the work. They are forced to adapt to outdated practices that require all manual labor with giving us the menial reaping benefits. The maximum help they have got is subsidized inputs like electricity, water, and manures. For the difficulties imposed on them, they resort to the only fastest solution to ending their problems, suicide. Over 12,000 suicide cases have been reported every year in the agricultural sector since 2013, according to the Government of India.

The government has taken steps by introducing initiatives like **AGRI-UDAAN**, **NABARD** (May - 2019) for start-ups related to agriculture and rural regions; **Pradhan Mantri Samman Nidhi Yojana** for providing a pension to the small-



scaled farmers after they attain 60 years of age; **Pradhan Mantri Krishi Sinchai Yojana**(PMKSY) for developing and providing permanent solutions for irrigation issues. Recently, in view of the COVID-19 pandemic, the government announced some reforms in the agricultural sector: **Freedom** from APMC Mandis which ensures barrier-free trade giving the farmers a wider market area; state government enforcing reforms and up-gradation of e-NAM for suitable price ranges; amendments to the Essential Commodities Act.

But all these reforms do not encourage productivity. We are at a stage where the skyrocketing demands are getting harder to meet with the dwindling supplies. Therefore, we need to accommodate strategic planning and research-oriented practices to ensure profitable crop yields. Minor tech solutions and advancements in the supply chain will bring down costs and bring in gain. Focusing on the post-harvest methods will also help save multiple crops from going to waste. Mobiles, internet, cloud platforms, IoT, AI, and big data have all been able to contribute to the development of the agriculture sector.

Soil testing can be done to determine the micro and macro nutrients present in the soil for proper growth and maintenance of the crop. This analysis also shows us the supplements to be given to the crops in case some nutrients are lacking. Hence, the crop type and additional replenishes needed can be decided. The inputs needed for this sector can be purchased via software developments like **IoT** and **AI** with full automation. Looking at the lands in India, we can observe that majority of farmlands are personal lands and family lands. And the people who own them or work those lands are marginal farmers with no access to financial services. Therefore, microfinance can save such people by providing small loans and establishing savings accounts for the people suffering in poverty.

Many start-ups are involved in this micro-financing of farmland owners and are building tech to develop an ecosystem around microfinance. Insurance to crops is also essential because the farming industry is unpredictable because of nature being a deciding factor of crop yield and profit. **PMFBY** (Pradhan Mantri's Fasal Bima Yojana) was set up in 2016 for this purpose. Satellite and climate technology will benefit crop insurance and farmers to predict the disasters that can be faced. Tech can help monitor the crops, climate conditions, soil conditions, etc. needed for profit. Post-harvest benefits like access provision to markets. Advisories on markets, microfinance, and supply chain companies are involved in direct interactions with farmers to give them an opportunity. Removing middlemen will help farmers get into direct contact with the markets and to set prices for their products within a reasonable range.

Many Start-ups are investing in agriculture technology **development for improving the game of this sector in its contribution to the Indian economy.**

Sea6Energy Private Ltd. is a Bio energy company in Bengaluru that works on replacing fossil fuels and their derivatives with healthy alternatives. Cultivation of red seaweed on a large scale using the ocean and the cropland results in natural and organic products like agricultural bio-stimulant, food additives for both animals and humans, bio-plastics, etc. Pesticide and disease resistance can also be improved.

FIB-SOL, based on IIT-Madras, works on bio-fertilizers and bio-degradable products like their Nano-fiber mesh with embedded microbes that supplements soil quality and can also deliver stimulants, pesticides, and fertilizer.

Therefore, **agriculture** is opening up opportunities in all sectors as it always has, and if properly strategized, it can ensure that India regains its economic status as a trade partner soon. It is safe to say the prosperity of India lies in the agricultural sector. It is up to us to utilize the marvels of this field.

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