BIG-DATA IN ECONOMICS

Big Data allows for better prediction of economic phenomena and improves causal inference

Vitul Chauhan

http://vitulchauhan.site/big-data-economic.pdf

BIG-DATA IN ECONOMICS

Issues in Indian Agriculture

Problems:

- In 2050 the Indian population is 1.7 billion, which means that India will have an additional 430 million mouths to feed so it is difficult to feeding that much number of peoples.

- In increasing population the land availability to the farmer is less.
  On an average if all farmers put together, the size of average land holding declined from 1.15 hectares in 2010-11 to 1.08 hectares in 2015-16.

- Indian total factor productivity growth remains below 2% per year , on the other hand China's total growth is about 6% per year even though China also has smallholding farmers.

- Need of Reserch and development in agriculture ,India spent 31% of its agricultural GDP on research and development in 2010, on the other hand China spent almost double that amount.

- the farmers are compelled to sell their produce immediately after the harvest at the prevailing market prices.

- In the absence of an organised marketing structure, private traders and middlemen dominate the marketing and trading of agricultural produce

- Over 58% of the rural households depend on agriculture including fisheries and forestry.

- The agriculture contribute 18 % of the GDP in 2012 and 50 % employment.

- Lack of direct integration with the market of the farmers(A distorted market.)

- Many intermediaries who increase cost but do not add much value.

- Produce that does not meet international standards.

- Inappropriate research.

Solutions:

- Technology can help to reduce 'yield gaps' and thus improve productivity
- To fullfill the need of the population, The Cereal production must grow by at least 4.2% a year, more than twice the current rate.
- Over 58% of the rural households depend on agriculture
- We have to match the population growth with increased food production.
- Properly management of farming and food production with big data and identify the factor which covers the big gap in agriculture with big data.
- How to be get efficiency, data accessibility, in the farmers/agriculture category.
- How to utilise the big data to integrate the next generation of farmers to get sustainable agriculture development.
- To implement the big data to reverse the food insecurity, increment of food production, implement good sustainable solutions, motivate youth and bring into agriculture, increase the overall strength and performance of the agricultural sector.
- To cover the gap between the agricultural sector with the "Big data" technology and to get better reach and involvement of the farmers.
- In agricultural we have to provide the availability good quality of data and guides the new farmers to increase productivity and help the farmers to get the proper decision-making in agricultural investments.
- To ensure farmers are able to contribute to the knowledge and adaptability of the process.
- Analysis the agriculture data for rainfall pattern, soil diagnosis, weather forecast, pests, diseases, market information and falling commodity prices etc. . . .
- With the use of Big data to sustainable agriculture and attract to youths and thus, generations can continuously use big data in the agricultural sector with big data
- This enables farmer to make smart decisions, such as what crops to plant for better profitability and when to harvest. The right decisions ultimately improve farm yields.
- The food delivery cycles from producer to the market should need to be reduced.
- Big data can help to get supply chain efficiencies by tracking and optimizing delivery truck routes.
- To track the farmers daily operations, store last 30 years of weather data history, satellite and drone images, and soil types , weather, irrigation practices, plant nutrient requirements, and several other farming techniques. — to make informed decisions faster, and to solve the food Challenges in the future.

- To track the progress of crops over the year, wheat production results,

- To assist the farmers on how to optimize their production based on market demand and how to Maximise the profitability.

- Collecting multiple data from multiple sources in real-time and helps farmer on the basis of trusted quality data.

Advantages:

- Increase in productivity of crops
- Increase in production of livestock
- Improvement in the efficiency of input use (cost saving)
- Increase in crop intensity
- Diversification towards high-value crops
- Improved price realization by farmers
- The shift of cultivators to non-farm jobs

References :

Link:1 ***wikipedia : India's Agriculture Development Problem***

https://en.wikipedia.org/wiki/India%27s_Agriculture_Development_Problem:_Lack_of_Access_to_Credit

Link :2 ***Swaminathan Report: National Commission on Farmers***

https://www.prsindia.org/report-summaries/swaminathan-report-national-commission-farmers

Thank You