

Green shoots of economic growth

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"Without factoring in agriculture, the vision of a \$5-trillion economy will remain a distant dream"

India's dream of becoming a \$5-trillion economy by 2024 is now in the open with a 'blue sky' vision envisaged in the Economic Survey this year. The document lays down a clear strategy to augment the growth of key sectors by shifting gears as the current economic conditions are smooth in terms of macroeconomic stability to expand growth. However, unless there are adequate investment reforms in primary sectors, steps taken to augment growth in other sectors would be futile.

Investment is the key

According to the Food and Agriculture Organisation (FAO), insufficient investment in the agriculture sector in most developing countries over the past 30 years has resulted in low productivity and stagnant production. In India, with a steadily decreasing share of 14.4% in Gross Value Added since 2015-16, the sector's contribution to a \$5-trillion economy would be around \$1 trillion — assuming a positive annual growth rate hereafter.

Investment is the key to unlocking the potential of a developing economy. However, the myopic policy regime in the past several decades has resulted in sluggish investment growth in the farm sector. Therefore, strengthening the sector with an enabling investment package (both public and private) is critical.

First, the wave of investment should touch segments such as agro-processing, and exports, agri-startups and agri-tourism, where the potential for job creation and capacity utilisation is far less. Integrating the existing tourism circuit with a relatively new area of agri-tourism (as a hub-and-spoke model), where glimpses of farm staff and farm operations are displayed to attract tourists, would help in boosting the investment cycle and generate in-situ employment.

Second, investment needs to be driven to strengthen both public and private extension advisory systems and the quality of agri-education and research through collaboration and convergence. It would also serve as a stage to demonstrate resource conservation and sustainable use through organic, natural and green methods, and also zero budget natural farming.

Third, given that India has the highest livestock population in the world, investment should be made to utilise this surplus by employing next-generation livestock technology with a strong emphasis not only on productivity enhancement but also on conservation of indigenous germplasm, disease surveillance, quality control, waste utilisation and value addition. This would lead to a sustained increase in farm income and savings with an export-oriented growth model.

Fourth, investment in renewable energy generation (using small wind mill and solar pumps) on fallow farmland and in hilly terrain would help reduce the burden of debt-ridden electricity distribution companies and

State governments, besides enabling energy security in rural areas.

Fifth, a farm business organisation is another source of routing private investment to agriculture. Linking these organisations with commodity exchanges would provide agriculture commodities more space on international trading platforms and reduce the burden of markets in a glut season, with certain policy/procedural modifications.

Pivotal role for data

Finally, data is the key driver of modern agriculture which in turn can power artificial intelligence-led agriculture, e-markets, soil mapping and others. Currently, there are issues of enumeration, maintenance and accessibility to help maintain agri-data on various fronts. There also needs to be a centralised institutional mechanism to help maintain farm level-data available for real time (virtual) assessment, while also helping plug the loopholes in subsidy distribution, funding and unrealistic assumption in production estimation. This will help in effectively implementing and monitoring various schemes for a pragmatic food system.

It is widely accepted that resource conservation comes with behavioural change, which needs dedicated investment in behavioural farm research sets. Perhaps this would help find a way to leverage nudge policies/choice architecture for resource conservation, fertilizer use, irrigation and electricity consumption. Above all, there is a need to converge fragmented investments (public, private and foreign) to address the structural weaknesses in the agriculture sector, enunciated in the Economic Survey 2016-17.

Trickle-down effect

Though economic transition has seen significant growth contribution from services and industry, agriculture remains the most trusted sector in helping alleviate poverty, hunger and malnutrition and ensuring better income distribution.

An earlier experience of BRIC (Brazil, Russia, India and China) nations has shown that a 1% growth in agriculture is at least two to three times more effective in reducing poverty than similar growth in non-agricultural sectors. Public investment in agriculture research and development in terms of percentage share in agri GVA stands at 0.37%, which is fairly low in comparison to between 3% and 5% in developed countries.

Also, in real terms, current investment can create an enabling environment to route private investment in R&D. Therefore, public investment in agriculture should see a commensurate rise with a healthy mix of education, research and extension encouraging 'blue-sky thinking' in all segments, while pushing for a targeted pruning of public expenditures on subsidies, kind transfers, loan waivers and populist measures.

Agriculture and its allied sectors are believed to be one of the most fertile grounds to help achieve the ambitious Sustainable Developmental Goals (SDGs). However, with the current pace of agriculture growth, India requires 'patient capital', as financial returns to investment are unlikely to materialise in the initial years. An inclusive business model facilitating strong investor-farmer relations should be created, with a legal and institutional framework for governance. Expanding institutions is essential to accommodate the developmental impacts of foreign agricultural investment.

GS World Team...

ZERO BUDGET NATURAL FARMING

What is it?

- This is an agricultural practice in which crops are grown without using fertilizers and pesticides or other chemical elements. Under this technique, natural manure is used instead of chemical to develop the crops that are cultivated and this compost is prepared by itself.
- Hybrid seeds, insecticides and chemical fertilizers are not used in this type of farming system.
- Zero budget is based on natural farming cow dung and cow urine. You would be surprised to know that a farmer can cultivate zero budget on thirty acres of land from the dung and urine of a single cow.
- Jivamrit, Dhanjivamrit and Jaman Vijamrit are made from cow dung and urine of indigenous species. It would be even more interesting to know that by utilizing them in the field, there is also an expansion of organic activities along with the increase of nutrients in the soil.
- There are innumerable micro-organisms in one gram cow dung that fulfill the 16 elements required for any crop. Under this method 90 percent of the water and fertilizer is saved.

The objective

- High yield on low cost, protection from climate change and better health, zero budget is the basic purpose of natural agriculture.

Related facts

- Subhash Palekar of Maharashtra is the father of zero budget farming. In different parts of the country, farmers are being trained in this agricultural system.
- Andhra Pradesh is the first state to adopt Zero Budget Natural Farming, while Himachal Pradesh is the second state.
- In place of chemical fertilizers, farmers use their composted compost in the cultivation. This compost is called 'Dhan Jivamrit'.
- Dhan Jivamrit uses cow dung, cow urine, gram

flour, clay, jaggery and water.

- Neemast, made of neem, dung and gaumutra, is used in place of chemical pesticides.
- In place of hybrid seeds of the market, indigenous seeds are used for crop production.
- Irrigation, rooting and plowing of fields is done by domestic animals.
- Zero Budget Natural Farming was started initially in September 2015 under the National Agricultural Development Plan of the Central Government.
- Zero Budget Natural Farming method drives good agricultural practices by discouraging the use of chemical pesticides.
- The farmer's cost is very low in this farming system, because the items used in the form of organic fertilizers such as cow dung, trees and vegetation, stool-urine, earthworm are available for free and in large quantity in villages.

Agriculture and Food Management in Economic Survey

- Gross Value Added (GVA) in 2014-15, the country's agricultural sector has achieved a growth of 6.3 per cent from the negative growth of 0.2 per cent in 2016-17, but it declined to 2.9 per cent in 2018-19.
- Gross capital formation in agriculture sector decreased by 15.2 percent in the year 2017-18. It was 15.6 percent in 2016-17.
- During the year 2016-17, agriculture has increased by 2.7 percent as the percentage of GCF GVA. In 2013-14, it was at 2.1 percent level.
- The participation of women in the agricultural sector increased to 13.9 percent in 2015-16, compared to 11.7 percent in the period 2005-06.
- The number of such women in the small and marginal farmers is 28 percent. 89 percent of ground water has been used for irrigation works.
- Promoting dairy sector in India, the largest producer of milk in the world.



Expected Questions (Prelims Exams)

1. In reference to the Zero Budget Natural Farming, consider the following statements-
1. It is based on the dung and urine of indigenous cow.
 2. Its objectives is high yeild with low cost, protection from climate change and attainment of good health.
 3. Andhra Pradesh is the first state of India to adopt it.
- Which of the above statement is/are correct?
- (a) 1 and 3 (b) Only 2
(c) 1 and 2 (d) All of the above

Expected Questions (Mains Exams)

- Q. How can a capable investment both public and private fulfill the dream of 5 million dollar economy of India by tackling the investment related problems of agriculture discuss. (250 Words)

Note: Answer of Prelims Expected Question given on 19 July. is 1(D).

