

Farmers' average income: SBI study **(GS Paper 3, Indian Economy)**

Why in news?

- Recently, SBI released a report based on primary data of its agriculture portfolio across states, which contains granular data of various crops from agri-intensive branches and **analyses the change in income of farmers over the past five years.**
- The study came barely days after the Centre showcased success stories of farmers who have managed to double their incomes during the past few years.



Key Highlights:

Diversification in income:

- It shows that between financial year 2017-18 and 2021-22, the **average income of farmers rose by 1.3 -1.7 times across India**, while in some crops like soybean in Maharashtra and cotton in Karnataka, incomes have in fact doubled during the same time.
- The increase in income of farmers growing cash crops has been more than those growing non-cash crops between FY18 and FY22.
- The **income from allied and non-farm activities grew by a significant 1.4-1.8 times** in line with the increase in farmers' income during the same period.
- This substantiates the trend as per the 77th National Sample Survey that the source of farmer income has become increasingly diverse apart from crops.

Ashok Dalwai Committee on Doubling Farmers:

- The Ashok Dalwai Committee on Doubling Farmers' income set up by the Central government in its 14-volume report released a few years ago, had said that to double income from both farm and non-farm sources, it would have to grow by 10.4 per cent between 2015-16 and 2022-23 (the terminal year) in real terms (inflation-adjusted) and not nominally.
- It had estimated the average annual income of an agricultural household in 2015-16 at Rs 96,703, which was projected to grow to Rs 1,72,694 by 2022-23, that is the end of the current financial year.

Loan Waiver:

- The SBI report also **strongly criticises farm loan waivers** announced by various states and the Centre during the past few years, saying the write-offs have failed to bring respite to the intended subjects, sabotaged credit discipline in select geographies and made banks/FIs wary of further lending.
- It said since 2014, of about 37 million eligible farmers, **only around 50 per cent received the amount of loan waiver (till March 2022)**, though in some states over 90 per cent of farmers received the debt waiver amount.

Minimum Support Price (MSP):

- The report also said that Minimum Support Price (MSP), increasingly aligned with market-linked pricing, has been pivotal in ensuring better prices to farmers.
- MSP has, in many cases, led to optimal price discovery, setting floor price benchmarks for many crop varieties (23 currently), and prompting farmers to gradually move over to crops that have better yield or value

Livelihood Credit Card (LCC):

- It said the **Kisan Credit Cards (KCC)** scheme, continuously improved and revamped by the government, has been instrumental in bringing a large number of farmers (currently about 73.7 million active KCCs) under the ambit of a formal credit mechanism at subsidised rate of interest from institutional players.
- However, current regulatory norms take too much of the banks' time in renewing and expanding KCCs. If simplified, they could save a lot of time, which could be then reallocated for fresh lending.
- SBI estimated that banks use about 2.3 million man days to renew KCC loans. This time could have been used for fresh lending to agriculture, if the norms were simplified.
- It suggested a **Livelihood Credit Card (LCC) encompassing a multi-purpose loan** covering a rural household's entire activities for ease of doing business.

Tenancy:

- The study also called for state intervention to give tenancy certificates to tenant farmers to bring them into the formal credit system.
- It had estimated that there **20-30 million landless or tenant farmers in India** based on its analysis of PM-KISAN and KCC beneficiaries.

Self-Help Groups (SHGs):

- The report also said NPAs of women-led Self-Help Groups (SHGs), which number over 800,000 in the country, is more than 10 per cent across India.
- Within this, certain states Uttar Pradesh, Haryana and Punjab have NPA ratios of over 25 per cent, while some like Andhra Pradesh, have the lowest ratio of 0.8 per cent.

Kerala protesting against Supreme Court's ESZ notification

(GS Paper 3, Environment)

Why in news?

- Recently, the Kerala State Assembly unanimously passed a resolution urging the Central government to **exclude the State's human habitations, farmlands and public institutions from the purview of the Ecologically Sensitive Zones (ESZ)**, recently notified by the Supreme Court, to be set-up around all protected forests in the country.
- The Assembly also called upon the Centre to notify the zones by considering the State government's proposals that marked the ESZ as zero around 10 protected areas of the State, urging the union government to enact laws for the purpose.

Why is the ESZ notification controversial in Kerala?

- The June 3 directive by a three-judge SC to have a mandatory ESZ of minimum one kilometre measured from the demarcated boundary of every protected forest, including the national parks and wildlife sanctuaries, has stirred the hornet's nest in Kerala where any regulatory mechanism on land and land use patterns would have political ramifications.

- The Union Ministry of Environment, Forest and Climate Change had notified the draft ESZs of 20 of the 23 protected areas in the State while issuing the final notification of the **Mathikettan Shola National park** way back in December 2020.
- However, the draft notification of the Periyar Tiger Reserve is yet to be published though the State government had submitted the proposal earlier, and the State is yet to submit the draft ESZ of **Karimpuzha Wildlife Sanctuary**, the newest one in Kerala, located in Malappuram district.

Eco-Sensitive Zone area

WHAT IS ESZ AREA

Creates a buffer zone around protected areas

Places restriction on construction, industries

Restricts pollution, extraction of surface water

Minimum of 100 m

Notifications in Karnataka

ESZ area currently notified

Bandipur National Park 479.18 sq. km notified in 2013

Bannerghatta National Park, spread across 260 sq. km, harbours a high population of wild elephants. ■ SUDHAKARA JAIN

ESZ areas that have received MoEF approval for final notification

25 national parks and sanctuaries

Total area of ESZ notification

Nearly 4,455 sq. km

ESZ areas pending approval from MoEF: 4

Ansi Dandell National Park and Bhimgad, among others

Includes Bannerghatta National Park, Gudakote Sloth Bear Sanctuary, Ramadevarabetta Vulture Sanctuary, Cauvery Wildlife Sanctuary, Nugu Wildlife Sanctuary, Kudremukh National Park, among others

Source: Ministry of Environment and Forests

Interests of state:

- What worries the State is the possible impact of the apex court's order on its unique landscape. Nearly 30% of Kerala is forested land and the Western Ghats occupies 48% of the State.
- Moreover, there is the network of lakes and canals and wetlands and the 590-kilometres-long coastline, which are all governed by a series of environmental conservation and protection legislations, leaving little space for its 3.5 crore population to occupy.
- With an average population density of 900 persons per square kilometre, much higher than the national average, the demographic pressure on the available land is unusually high in the State, as noted by the State Assembly's resolution.
- The State Government apprehends that the SC's notification may worsen the ground situation as it would adversely impact the interests of the State besides upsetting the lives of millions living near the protected areas.

How did the State's earlier efforts to draft ESZ notifications go?

- Earlier, while preparing the draft ESZ notifications for its protected areas including the Malabar, Idukki, Aralam, Kottiyoor, Shendurney and Wayanad wildlife sanctuaries, the State Government had taken care to exclude the areas with high population density, government and quasi-government institutions, and public institutions from the ambit of the notification.
- The marking of the ESZ for the protected areas that shared the forest boundary with the neighbouring States was a peaceful affair as there were no human habitations in between.
- However, the apex court's recent order has changed the picture and forced the State government to re-look the ESZs of at least 10 protected areas which were earlier marked as zero.

What has been the reaction to the directive?

- The apex court order comes a decade after the Western Ghats Ecology Expert Panel (WGEEP) report, aka Gadgil report, that had radically influenced the socio-political, economic and ecological narratives in the State.
- Though not to the level of the high-pitched public unrest and protests that the State witnessed during the days preceding the WGEEP report, the ESZ notification too has triggered state-wide protests.

- As it occurred during the post WGEEP days, a section of the Church has openly come out against the notification. The Church groups have also demanded the recalling of the apex court order.
- The Kerala Catholic Bishops' Council, a powerful body catering to the special needs of the apostolate in the State, termed the apex court verdict as unfortunate as it feared that the order will upset the lives of thousands of settler farmers and people living on the forest fringes.
- The forum apprehended that the order will effectively turn four lakh acres around the 23 wildlife sanctuaries in the State into buffer zones, thus hitting around 1.5 lakh families.

What next for Kerala?

- Kerala is pinning its hope on the Centre's stand that it was willing to discuss its concerns with the State government.
- The State government has also decided to explore the option of approaching the Central Empowered Committee, as directed by the Supreme Court in its order, to convince the forum of the need to maintain zero ESZ in the areas of human habitation.
- It may also approach the apex court seeking exemption from the one kilometre ESZ regime and to limit it to zero wherever required.

Wildfires in Europe **(GS Paper 3, Environment)**

Why in news?

- Thousands of people have been forced to flee their homes, and thousands of hectares of forestland burned to the ground in Europe amid a searing heatwave.



Why are wildfires worsening?

- Wildfires require right climatic conditions, burnable fuel and a spark. Rising temperatures suck moisture out of plants, creating an abundance of dry fuel.
- Drought and high heat can kill plants and dry out dead grass, and other material on the forest floor that fuel the fire once it starts sweeping through a patch.

- While dry vegetation is the burnable fuel that serves as kindling for fires, the **spark is sometimes caused by lightning, at other times by accident or recklessness** of the local population.

Climate Change:

- As for Europe, the region has been hit by an early fire season due to an unusually dry, hot spring that left the soil parched.
- Authorities attribute this to climate change. They add that the fires are being fanned by earlier-than-usual extreme temperatures and drought conditions in some parts.
- Wildfire experts agree as they see clear climate change signatures in the dryness, high heat and early fire season.

How badly has Europe been hit?

Portugal:

- Temperatures hit 47 degrees Celsius in Portugal recently. Firefighters have been struggling to control five forest and rural fires in the center and north of the country, the largest near the northern city of Chaves.
- In the last seven days 659 people have died due to the heatwave, most of them elderly.
- Before the recent heatwave hit, mainland Portugal already had 96% of its territory in severe or extreme drought at the end of June.

Spain:

- In Spain, firefighters aided by the country's armed forces' emergency brigades are battling over 30 fires consuming forests spread across the country.
- Spain has been experiencing a nearly week-long heatwave, with highs of 45.7 degrees Celsius.

France:

- In France, the wildfires had now spread over 11,000 hectares (27,000 acres) in the southwestern region of Gironde, and more than 14,000 people have been evacuated.
- More than 1,200 firefighters are currently engaged in operations to stamp out the blazes.

United Kingdom:

- In Britain, the national weather forecaster has issued its first red "extreme heat" warning for parts of England, predicting temperatures could reach 40 degrees Celsius.
- This would breach the previous record of 38.7 degrees Celsius in 2019.

How dangerous is inhaling wildfire smoke?

- While fire poses a direct risk to people's life and property, wildfire smoke, and particularly the concentration of PM 2.5, or particles smaller than 2.5 microns, can also affect the respiratory and cardiovascular systems.
- For those already suffering from cardiovascular or respiratory illnesses, there is a risk of flare-ups.

Is a new approach needed to deal with the situation?

- Wildfires across the world are becoming bigger and more frequent. Experts say that the approach has to change from firefighting to mitigation of factors that lead to extreme fire events.
- In its annual Frontier report, the United Nations Environment Programme (UNEP) said that the trends towards more dangerous fire-weather conditions are likely to increase due to rising concentrations of atmospheric greenhouse gases and the attendant escalation of wildfire risk factors.
- While strengthening firefighting capabilities, there is a need to tackle factors that make these fires escalate and become worse.

Rice Stocks in India **(GS Paper 3, Indian Economy)**

Context:

- The Southwest Monsoon's revival in July has resulted in the total area sown under kharif crops not only recovering, but even surpassing 2021's coverage for the same period from June to mid-July.

- However, paddy (rice) acreage, at 128.50 lakh hectares (lh) as of July 15, was 17.4% down from 2021's 155.53 lh.

Stock available in India:

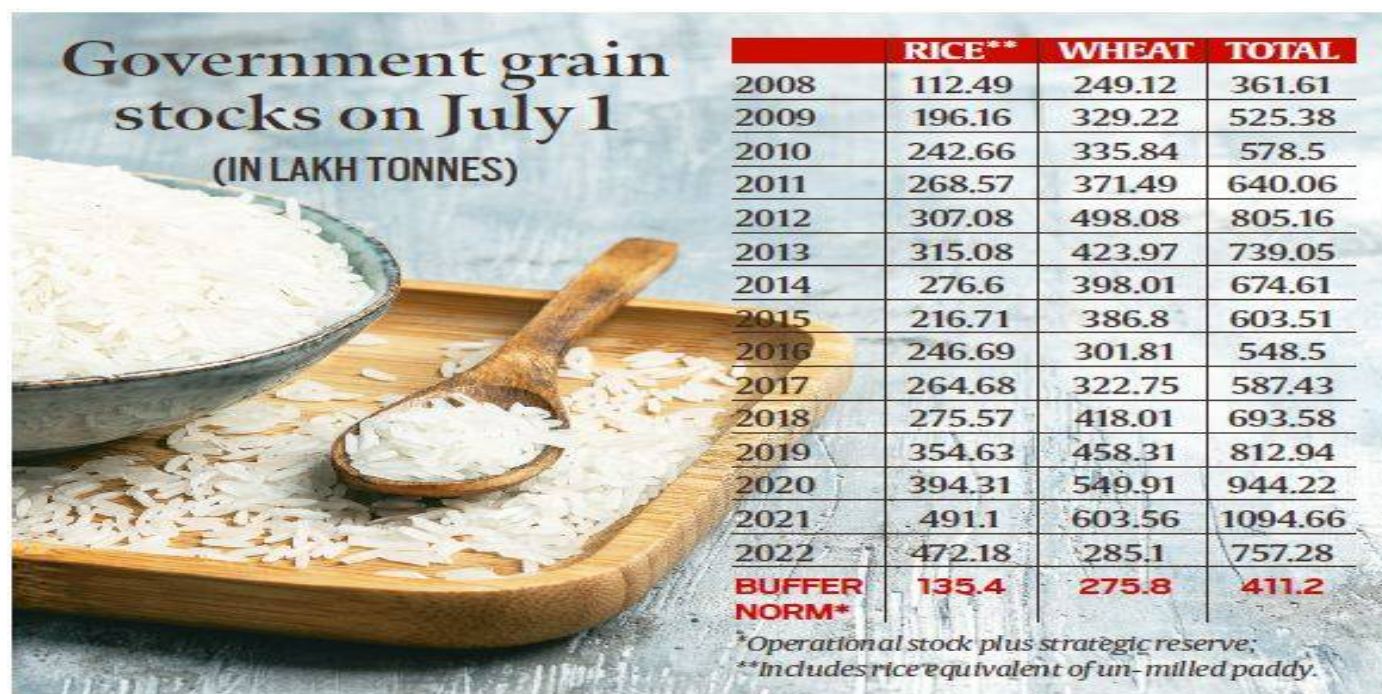
- The government godowns had over 47.2 million tonnes (mt) of rice on July 1. These were nearly **three-and-a-half times the minimum level of stocks**, to meet both “operational” (public distribution system) and “strategic reserve” (exigency) requirements for the quarter. Rice stocks are still close to their peaks scaled in 2021.
- That comfort doesn't extend, though, to wheat, where public stocks have plunged from all-time highs to 14-year lows within the space of a year (see table).
- In wheat, it was a single bad crop, the one singled by the March-April 2022 heat wave that did all the damage and brought down stocks to just above the minimum buffer.

In rice, the stakes are higher:

- It is **India's largest agricultural crop** (accounting for over 40% of the total foodgrain output), with the country also being **the world's biggest exporter** (a record 21.21 mt valued at \$9.66 billion got shipped out during the fiscal ended March 2022).
- Unlike with wheat, the options for import in rice, due to any production shortfall are limited, when India's own share in the global trade of the cereal is more than 40%.

Why has acreage fallen?

- Farmers first sow paddy seeds in nurseries, where they are raised into young plants. These seedlings are then uprooted and replanted 25-35 days later in the main field that is usually 10 times the size of the nursery seed bed.
- Nursery sowing generally happens before the monsoon rains. Farmers wait for their arrival to undertake transplantation, which requires the field to be “puddled” or tilled in standing water.
- For the first three weeks or so after transplanting, the water depth has to be maintained at 4-5 cm, in order to control weed growth in the early stage of the crop.
- India has received 353.7 mm of rainfall during June 1 to July 17, 12.7% more than the “normal” historical average for this period.



Deficient rainfall in paddy-growing belt:

- Yet, a **vast paddy-growing belt**, from Uttar Pradesh to West Bengal, has had very little rains. Cumulative rainfall has been 55.5% below the long period average in West UP, and 70%, 45.8%, 48.9% and 45.1% respectively for East UP, Bihar, Jharkhand and Gangetic West Bengal.
- Deficient rainfall has meant that farmers in UP had transplanted only 26.98 lh under paddy until July 15, as against 35.29 lh during the same time last season.
- Farmers in Bihar (from 8.77 lh to 6.06 lh), West Bengal (4.68 lh to 3.94 lh) and Jharkhand (2.93 lh to 1.02 lh) too have reported lower acreages. So have those in Odisha, Chhattisgarh and eastern Madhya Pradesh, although that gap should reduce with the monsoon turning the corner in these parts.

Sanda method:

- Interestingly, in eastern UP, farmers with access to basic irrigation also practise the ‘Sanda’ double-transplanting method of paddy cultivation under conditions of delayed rainfall.
- In this case, the seedlings are uprooted after 25 days in the nursery and replanted in a puddled field that is only about twice the former’s area.
- The plants after establishment begin tillering and are, thus, rejuvenated for the next 10-15 days. When the rains come, they are again uprooted and replanted in the main field 10 times the size of the original nursery.
- Paddy yields from Sanda are said to be better than from the regular one-step transplanting. The reason for it is that the Sanda plants have already tillered and their establishment in the main field would be near 100% with little mortality.

Conclusion:

- To start with, the India Meteorological Department has forecast that the current monsoon trough, which is active and south of its normal position, is “very likely to shift gradually northwards. That should, hopefully, provide much-needed relief to farmers in the Gangetic plains within the next few days.
- Secondly, paddy cultivation takes place across a wider geography, unlike wheat that is grown only in a few states north of the Vindhyas. Also, rice is both a kharif (monsoon) and rabi (winter-spring) season crop. So, the losses in one area or season can potentially be recouped from the other.
- In wheat, everyone was caught off-guard by the sudden surge in temperatures after mid-March that cut grain yields by a fifth or more. Rice is less likely to throw up huge negative surprises. And with the present stocks, it should be manageable.

Yield inversion, soft-landing and reverse currency wars

(GS Paper 3, Economy)

Context:

- Notwithstanding rapid increases in interest rates by the US central bank, the inflation rate for June came in at 9.1 per cent. This is the highest in 40 years in the US.
- Many observers have pointed to an inversion of the US yield curve to argue that the US central bank will not be able to achieve a soft-landing for the economy.
- And yet, the US dollar continues to gain against all other currencies. Now, in what is being seen as a reverse currency war, most central banks across the world are trying to raise their interest rates to counter the Fed’s actions and ensure their respective currency claws back value against the dollar.

Three key terms:

- This economic scenario brings three key terms: Yield inversion, soft-landing and reverse currency war, in limelight.

Bond yield curve inversion:

- Bonds are essentially an instrument through which governments (and also corporations) raise money from people. Typically government bond yields are a good way to understand the risk-free interest rate in that economy.
- The **yield curve is the graphical representation of yields from bonds** (with an equal credit rating) over different time horizons.

- Under normal circumstances, any economy would have an **upward sloping yield curve**. That is to say, as one lends for a longer duration, one gets higher yields. If one is parting with money for a longer duration, the return should be higher. Moreover, a longer tenure also implies that there is a greater risk of failure.
- **An inversion of the yield curve** essentially suggests that investors expect future growth to be weak.
- However, there are times when this **bond yield curve becomes inverted**. For instance, bonds with a tenure of 2 years end up paying out higher yields (returns/ interest rate) than bonds with a 10 year tenure. Such an inversion of the yield curve essentially suggests that investors expect future growth to be weak.



Predictor of recession:

- When investors feel buoyant about the economy they pull the money out from long-term bonds and put it in short-term riskier assets such as stock markets. In the bond market, the prices of long-term bonds fall, and their yield (effective interest rate) rises. This happens because bond prices and bond yields are inversely related.
- However, when investors suspect that the economy is heading for trouble, they pull out money from short-term risky assets (such as stock markets) and put them in long-term bonds. This causes the prices of the long-term bonds to rise and their yields to fall.
- **Over the years, inversion of the bond yield curve has become a strong predictor of recessions.** Of course, for it to be taken seriously, such an inversion has to last for several months.
- Over the past few weeks, such inversion is happening repeatedly in the US, suggesting to many that a recession is in the offing.
- In the current instance, the US Fed has been raising short-term interest rates, which further bumps up the short-end of the yield curve while dampening economic activity.

Soft-landing:

- The process of monetary tightening that the US Fed is currently unveiling involves not just reducing the money supply but also increasing the cost of money (that is, the interest rate). The Fed is doing this to contain soaring inflation.
- Ideally, the Fed or any central bank doing this would like to bring about monetary tightening in such a manner that slows down the economy but doesn't lead to a recession.
- **When a central bank is successful in slowing down the economy without bringing about a recession, it is called a soft-landing.** But when the actions of the central bank bring about a recession, it is called a hard-landing.

- Given the massive gap between the current US inflation rate, over 9%, and the Fed's target inflation rate, 2%, most observers expect that the Fed would have to resort to such aggressive monetary tightening that the US economy will end up having a hard-landing.

Reverse Currency War:

- A flip side of the US Fed's action of aggressively raising interest rates is that more and more investors are rushing to invest money in the US. This, in turn, has **made the dollar become stronger than all the other currencies**. That's because the dollar is more in demand than yen, euro, yuan etc.
- On the face of it, this should make all other countries happier because a relative weakness of their local currency against the dollar makes their exports more competitive.
- For instance, a Chinese or an Indian exporter gets a massive boost. In fact, in the past the US has often accused other countries of manipulating their currency (and keeping it weaker against the dollar) just to enjoy a trade surplus against the US. This used to be called the currency war.
- However, today, every central bank is trying to figure out ways to counter the US Fed and raise interest rates themselves in order to ensure their currency doesn't lose too much value against the dollar.

What explains this reverse currency war unfolding at the moment?

- The important thing to understand is that a stronger dollar has had a key benefit — importing cheaper crude oil. A currency which is losing value to the dollar, on the other hand, finds that it is getting costlier to import crude oil and other commodities that are often traded in dollars.
- But raising the interest rate is not without its own risks. Just like in the US, higher interest rates will decrease the chances of a soft-landing for any other economy.