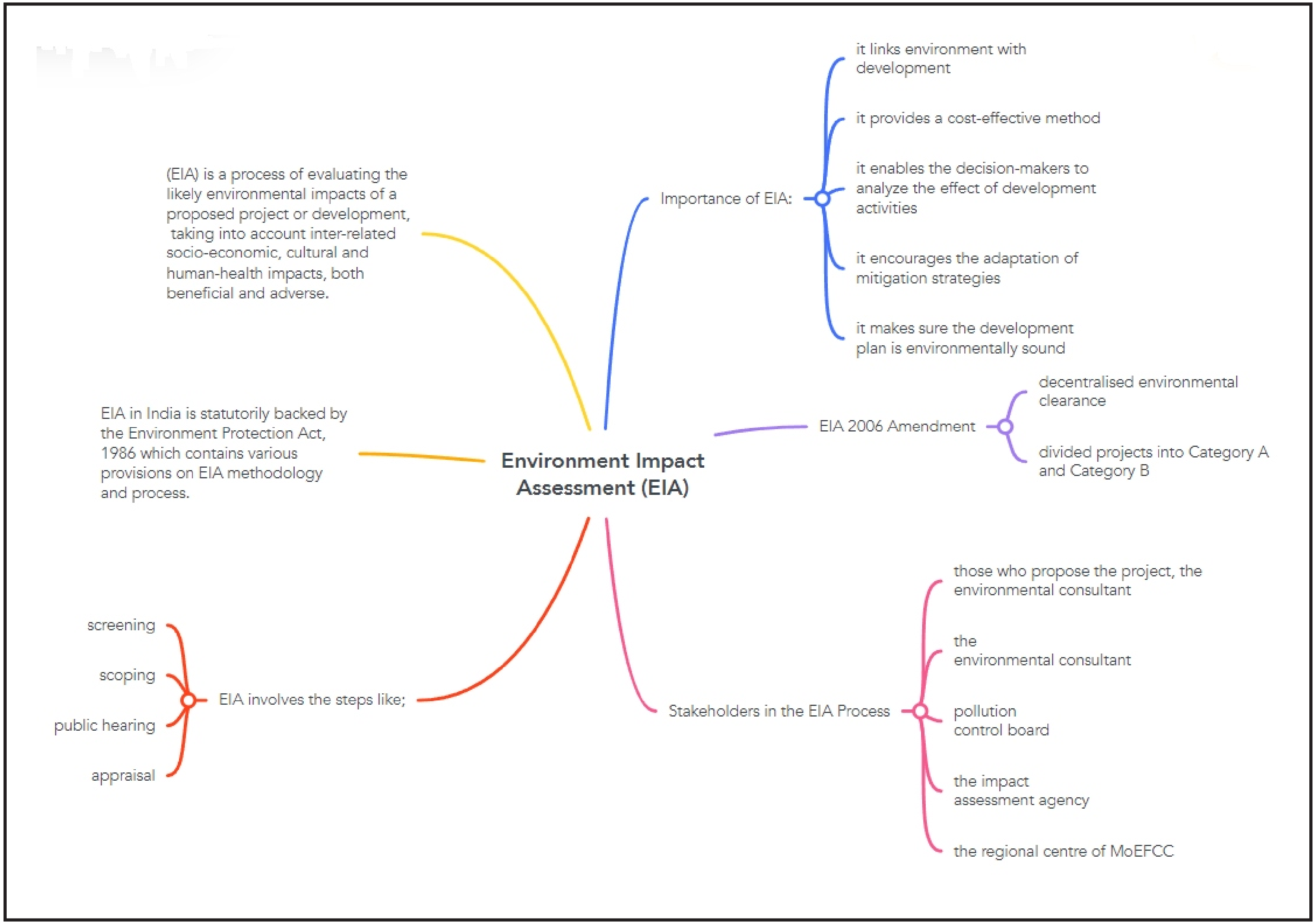
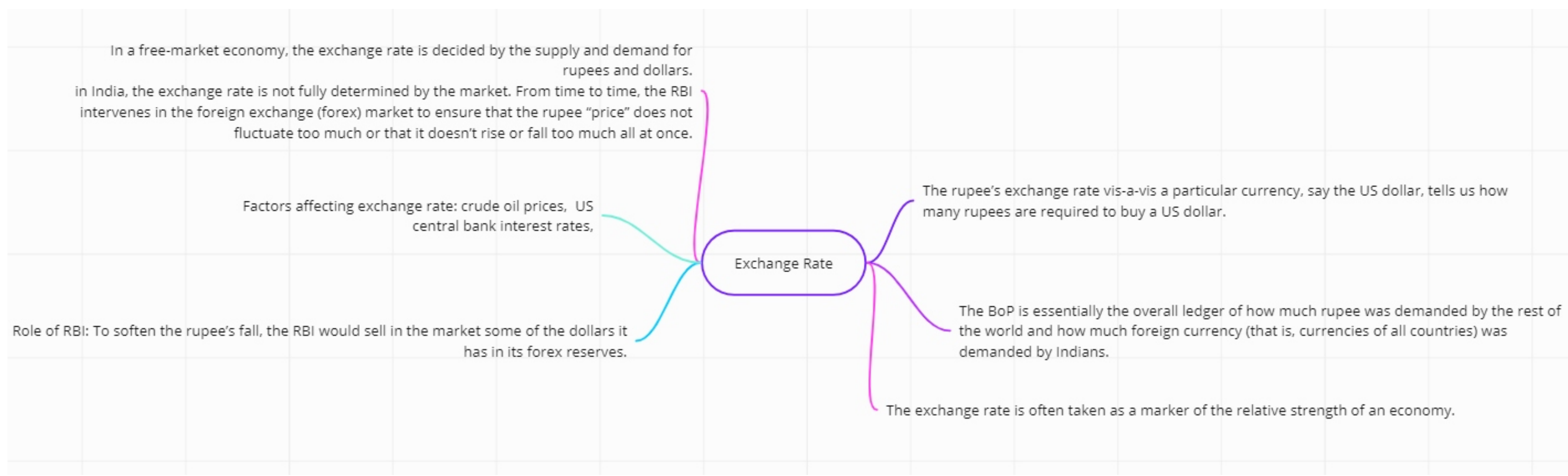
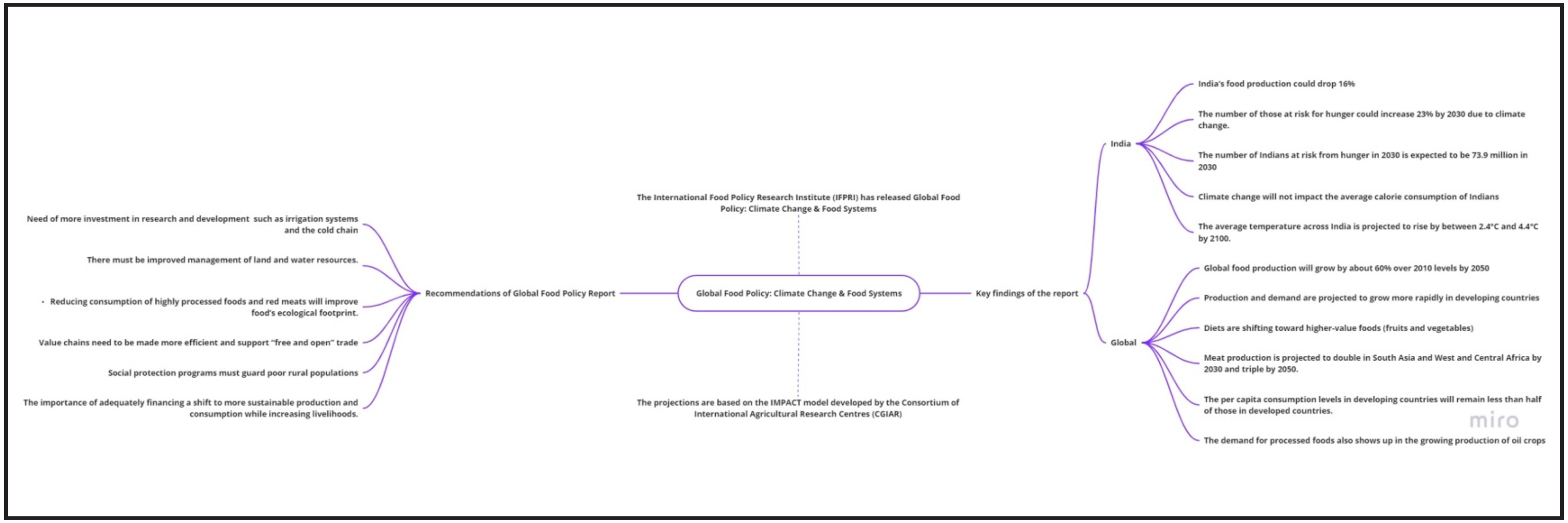
Artificial Intelligence (AI) Chips

- Meaning of AI Chips
  - AI chips are built with specific architecture and have integrated AI acceleration to support deep learning-based applications.
- Use of AI Chips
  - It combines a series of computer commands or algorithms that stimulate activity and brain structure. Deep learning can make the process of collecting, analyzing, and interpreting enormous amounts of data faster and easier.
  - The use of AI chips for natural language processing (NLP) applications has increased due to the rise in demand for chatbots and online channels such as Messenger, Slack, and others.
  - AI chips are also powering applications of computational imaging in wearable electronics, drones, and robots.
- Types of AI Chips
  - Application-specific circuits (ASICs)
  - Field-programmable gate arrays (FPGAs)
  - Central processing units (COUs)
  - Designed for diverse AI applications
- Different from traditional chips
  - The traditional chips are not ideal for AI applications as they would not be able to handle higher computational necessities of AI workloads which have huge volumes of data.
  - AI chips are the future of mobile processors that are capable of doing more than just the basic tasks a phone can do with the help of traditional chips. AI chips are simply designed to do specific AI tasks more effectively and efficiently.
  - The traditional chips are housed in a smaller chip package and designed to support applications delivering all system capabilities needed to support device applications. Whereas, AI chips refer to a system that uses multiple processors each with specialized functions.
  - Normal processors are not well suited or equipped enough to fulfil the demands of machine learning. AI chips have an additional Neural Processing Unit (NPU) that is capable of delivering much faster and fulfilling the demands of machine learning.


Environment Impact Assessment (EIA)
(EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.
EIA in India is statutorily backed by the Environment Protection Act, 1986 which contains various provisions on EIA methodology and process.
EIA involves the steps like;
screening
scoping
public hearing
appraisal
Importance of EIA:
it links environment with development
it provides a cost-effective method
it enables the decision-makers to analyze the effect of development activities
it encourages the adaptation of mitigation strategies
it makes sure the development plan is environmentally sound
EIA 2006 Amendment
decentralised environmental clearance
divided projects into Category A and Category B
Stakeholders in the EIA Process
those who propose the project, the environmental consultant
the environmental consultant
pollution control board
the impact assessment agency
the regional centre of MoEFCC


Exchange Rate
In a free-market economy, the exchange rate is decided by the supply and demand for rupees and dollars.
in India, the exchange rate is not fully determined by the market. From time to time, the RBI intervenes in the foreign exchange (forex) market to ensure that the rupee "price" does not fluctuate too much or that it doesn't rise or fall too much all at once.
Factors affecting exchange rate: crude oil prices, US central bank interest rates,
Role of RBI: To soften the rupee's fall, the RBI would sell in the market some of the dollars it has in its forex reserves.
The rupee's exchange rate vis-a-vis a particular currency, say the US dollar, tells us how many rupees are required to buy a US dollar.
The BoP is essentially the overall ledger of how much rupee was demanded by the rest of the world and how much foreign currency (that is, currencies of all countries) was demanded by Indians.
The exchange rate is often taken as a marker of the relative strength of an economy.


Global Food Policy: Climate Change & Food Systems
The International Food Policy Research Institute (IFPRI) has released Global Food Policy: Climate Change & Food Systems
The projections are based on the IMPACT model developed by the Consortium of International Agricultural Research Centres (CGIAR)
Key findings of the report
India
India's food production could drop 16%
The number of those at risk for hunger could increase 23% by 2030 due to climate change.
The number of Indians at risk from hunger in 2030 is expected to be 73.9 million in 2030
Climate change will not impact the average calorie consumption of Indians
The average temperature across India is projected to rise by between 2.4°C and 4.4°C by 2100.
Global
Global food production will grow by about 60% over 2010 levels by 2050
Production and demand are projected to grow more rapidly in developing countries
Diets are shifting toward higher-value foods (fruits and vegetables)
Meat production is projected to double in South Asia and West and Central Africa by 2030 and triple by 2050.
The per capita consumption levels in developing countries will remain less than half of those in developed countries.
The demand for processed foods also shows up in the growing production of oil crops
Recommendations of Global Food Policy Report
Need of more investment in research and development such as irrigation systems and the cold chain
There must be improved management of land and water resources.
• Reducing consumption of highly processed foods and red meats will improve food's ecological footprint.
Value chains need to be made more efficient and support "free and open" trade
Social protection programs must guard poor rural populations
The importance of adequately financing a shift to more sustainable production and consumption while increasing livelihoods.
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Open Network for Digital Commerce (ONDC)

The Department for Promotion of Industry and Internal Trade (DPIIT) went live with its Open Network for Digital Commerce (ONDC) project on a limited scale, enabling small merchants and mom-and-pop stores in some parts of the country to access processes and technologies that are typically deployed by large e-commerce platforms such as Amazon and Flipkart.

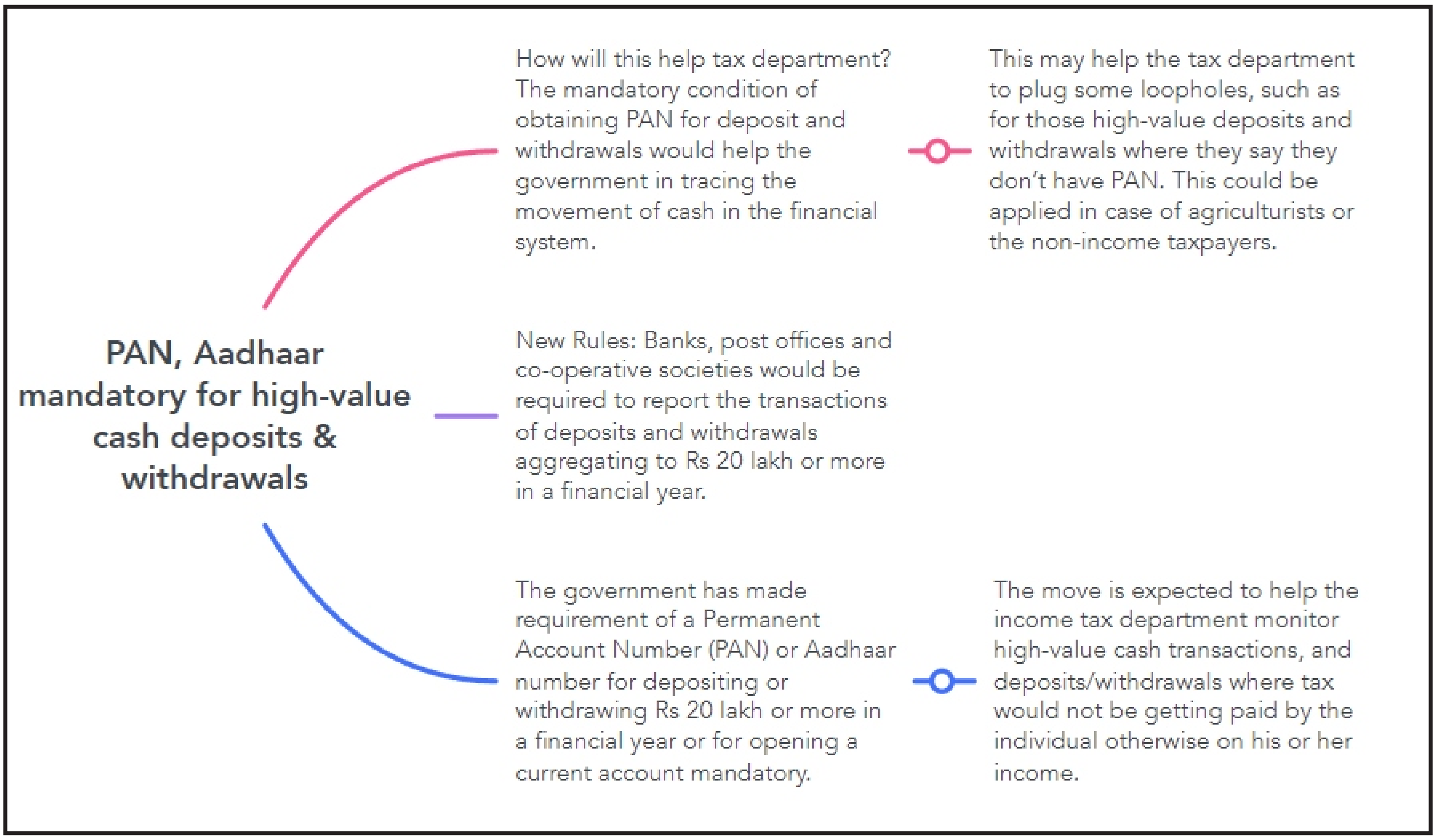
During its test run, the platform expects to onboard 150 sellers in places such as Delhi-NCR, Bengaluru, Coimbatore, Bhopal, and Shillong.

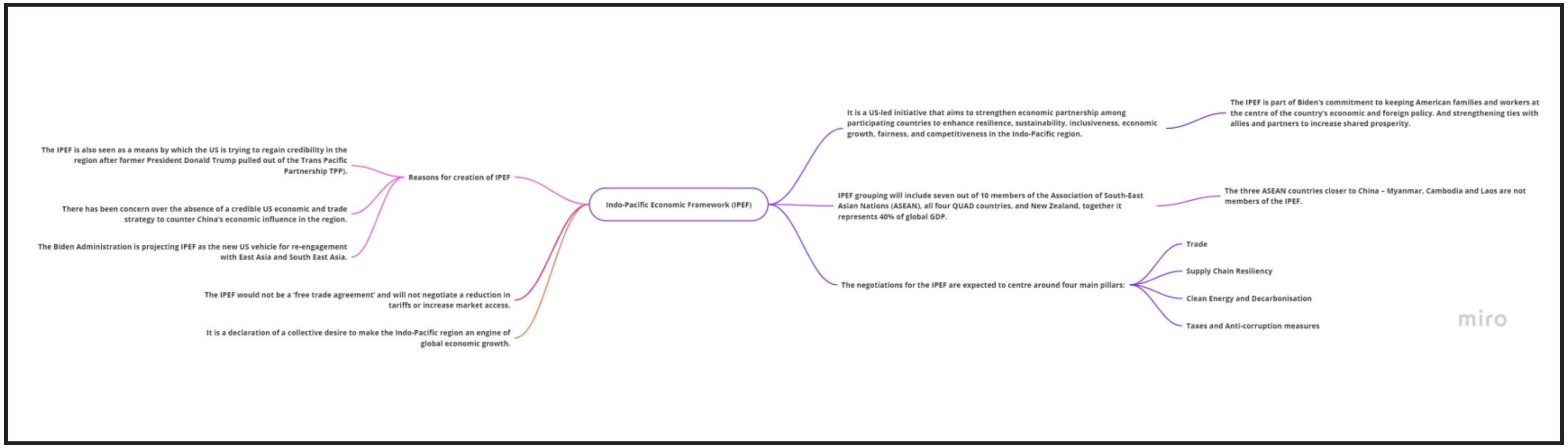
The ONDC platform lies in the middle of the interfaces hosting the buyers and the sellers. So far, the buyer side interface is being hosted by Paytm, whereas the seller side interface is being hosted by other players like GoFrugal, etc.

Several operational aspects including onboarding of sellers, vendor discovery, price discovery, and product cataloguing could be made open source on the lines of the Unified Payments Interface (UPI).

Making a software or a process open-source means that the code or the steps of that process is made available freely for others to use, redistribute and modify.

The ONDC project was commissioned by the DPIIT through the Quality Council of India (QCI). The building blocks of the project were designed by a nine-member advisory council that included Infosys Co-founder and Chairman Nandan Nilekani, National Health Authority CEO R S Sharma, QCI Chairman Adil Zainulbhai, National Payments Corporation of India CEO Dilip Asbe, and others.


PAN, Aadhaar mandatory for high-value cash deposits & withdrawals
How will this help tax department? The mandatory condition of obtaining PAN for deposit and withdrawals would help the government in tracing the movement of cash in the financial system.
This may help the tax department to plug some loopholes, such as for those high-value deposits and withdrawals where they say they don't have PAN. This could be applied in case of agriculturists or the non-income taxpayers.
New Rules: Banks, post offices and co-operative societies would be required to report the transactions of deposits and withdrawals aggregating to Rs 20 lakh or more in a financial year.
The government has made requirement of a Permanent Account Number (PAN) or Aadhaar number for depositing or withdrawing Rs 20 lakh or more in a financial year or for opening a current account mandatory.
The move is expected to help the income tax department monitor high-value cash transactions, and deposits/withdrawals where tax would not be getting paid by the individual otherwise on his or her income.


Indo-Pacific Economic Framework (IPEF)
Reasons for creation of IPEF
The IPEF is also seen as a means by which the US is trying to regain credibility in the region after former President Donald Trump pulled out of the Trans Pacific Partnership TPP).
There has been concern over the absence of a credible US economic and trade strategy to counter China's economic influence in the region.
The Biden Administration is projecting IPEF as the new US vehicle for re-engagement with East Asia and South East Asia.
The IPEF would not be a 'free trade agreement' and will not negotiate a reduction in tariffs or increase market access.
It is a declaration of a collective desire to make the Indo-Pacific region an engine of global economic growth.
It is a US-led initiative that aims to strengthen economic partnership among participating countries to enhance resilience, sustainability, inclusiveness, economic growth, fairness, and competitiveness in the Indo-Pacific region.
The IPEF is part of Biden's commitment to keeping American families and workers at the centre of the country's economic and foreign policy. And strengthening ties with allies and partners to increase shared prosperity.
IPEF grouping will include seven out of 10 members of the Association of South-East Asian Nations (ASEAN), all four QUAD countries, and New Zealand, together it represents 40% of global GDP.
The three ASEAN countries closer to China – Myanmar, Cambodia and Laos are not members of the IPEF.
The negotiations for the IPEF are expected to centre around four main pillars:
Trade
Supply Chain Resiliency
Clean Energy and Decarbonisation
Taxes and Anti-corruption measures
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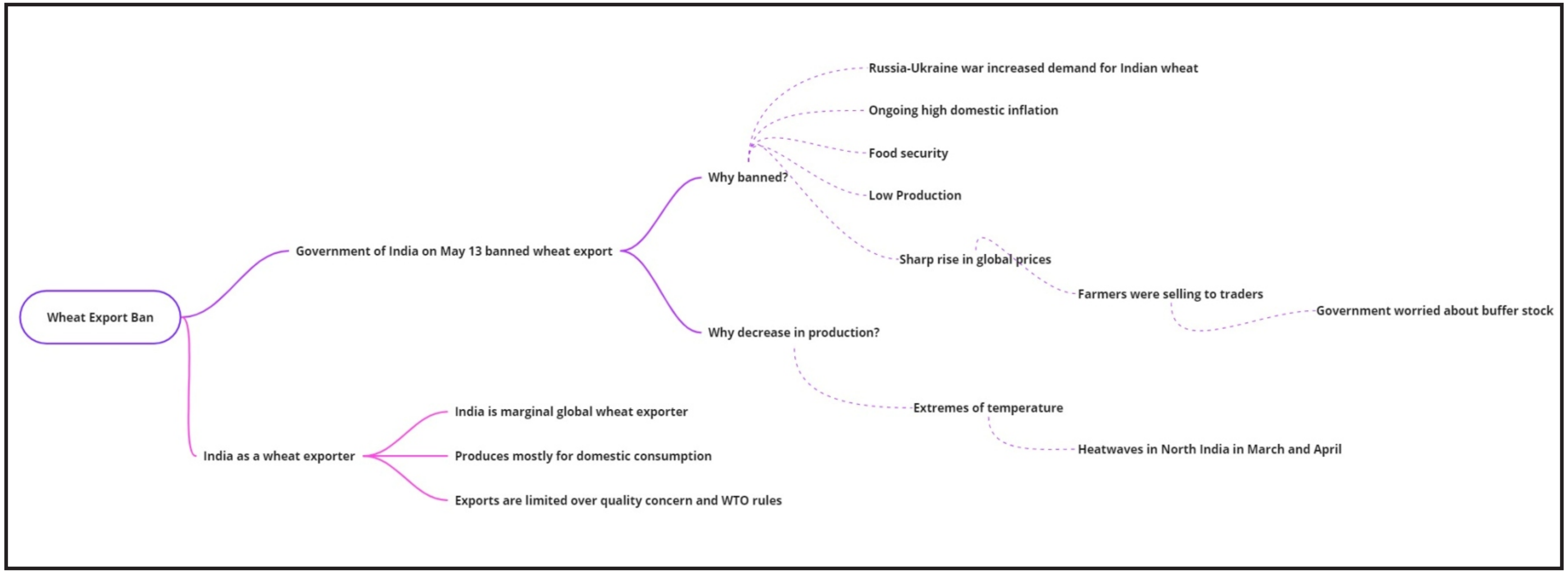
Wheat Export Ban
Government of India on May 13 banned wheat export
Why banned?
Russia-Ukraine war increased demand for Indian wheat
Ongoing high domestic inflation
Food security
Low Production
Sharp rise in global prices
Farmers were selling to traders
Government worried about buffer stock
Why decrease in production?
Extremes of temperature
Heatwaves in North India in March and April
India as a wheat exporter
India is marginal global wheat exporter
Produces mostly for domestic consumption
Exports are limited over quality concern and WTO rules