

## **Soyabean - Malwa Region of Madhya Pradesh**

### **What is the issue?**

\n\n

\n

- Malwa region is said to be India's US Midwest, only because of soyabean.

\n

- The significance of this crop in Malwa region and Madhya Pradesh, calls for addressing the current challenges to its production.

\n

\n\n

### **How did Soyabean take root in India?**

\n\n

\n

- Soyabean in India has an American connection. The leguminous oilseed was hardly grown here till the mid-sixties.

\n

- The first yellow-seeded soyabean varieties were introduced by University of Illinois scientists.

\n

- They conducted field trials at the Jawaharlal Nehru Krishi Vishwa Vidyalaya (JNKVV) in Jabalpur, Madhya Pradesh.

\n

- Many of these varieties - Bragg, Improved Pelican, Clark 63, Lee and Hardee - were released for direct cultivation.

\n

- By 1975-76, the all-India area under soyabean had touched around 90,000 hectares.

\n

- But a revolution in soyabean production took place only after that and in Malwa.

\n

- Here, soyabean's relevance, even vis-à-vis shaping electoral outcomes, is comparable to that of sugarcane in western UP.

\n

\n\n

## How has Malwa plateau traditionally been?

\n\n

- \n
- Malwa plateau region of western MP covers the districts of Dewas, Indore, Dhar, Ujjain, Jhabua, Ratlam, Mandasur, Neemuch, Shajapur and Rajgarh.
- \n
- Traditionally, the region grew only a single un-irrigated crop of wheat or chana (chickpea) during the rabi winter season.
- \n
- Farmers mostly kept their lands fallow during the kharif monsoon season.
- \n
- The reason was the monsoon's unpredictability, as even if the rains arrived on time, it could be followed by long dry spells.
- \n
- Sometimes, it rained so much that the fields would get waterlogged, damaging the standing crop.
- \n
- So the farmers simply allowed the soil to retain water from the monsoon rain and take a rabi crop using this residual moisture.
- \n

\n\n

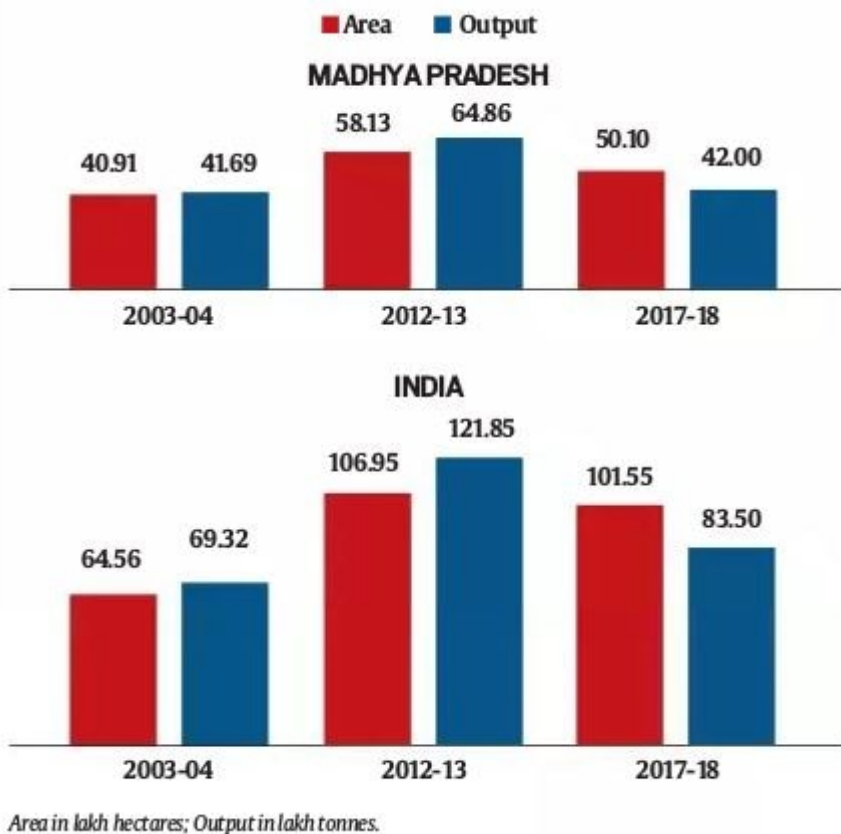
## How did Soyabean become suitable to Malwa?

\n\n

- \n
- **Tubewells** - The change came with the advent of tube-wells in the mid-seventies.
- \n
- The Malwa plateau is made up of hard basaltic rocks of the Deccan Trap.
- \n
- Since these had aquifers with unutilised groundwater in many places, it was possible to drill tube-wells and grow irrigated wheat.
- \n
- So farmers now felt no need to conserve rainwater during monsoon as before.
- \n
- They could, instead, raise a kharif crop on this previously fallow land, and this turned out to be soyabean.
- \n
- **Soil** - Soyabean could grow well in Malwa region's black cotton soil and did not require much effort.
- \n

- **Water** - Soyabean, unlike urad (black gram) or maize, could tolerate water-logging for 2-3 days.  
\n
- It could also survive dry spells for over three weeks without much yield loss.  
\n
- **Nitrogen** - Being a legume, soyabean root nodules harboured atmospheric nitrogen-fixing bacteria.  
\n
- When harvested, it left behind 40-45 kg of nitrogen per hectare (equivalent to nearly two 50-kg urea bags) for the succeeding crop.  
\n
- **Duration** - Soyabean's main advantage was its duration.  
\n
- The strains imported from US Midwest had a maturity period of 115-120 days from seed to grain.  
\n
- In 1994, JNKVV released an indigenously bred variety, JS 335 that matured in just 95-100 days.  
\n
- It also yielded 25-30 quintals per hectare, which was 5-10 quintals more.  
\n
- This variety, thus, very soon went on to occupy around 90% of India's total soyabean area.  
\n
- The crop duration fell further to 80-90 days with varieties like JS 9560 and JS 2034, developed by the same university.  
\n
- The relative hardiness and shorter maturity (at least 10-15 days less than jowar or maize) made soyabean the ideal kharif crop.  
\n
- Farmers could sow it by late-June after the monsoon rains and harvest before mid-October, and could plant wheat in November.  
\n
- **Coverage** - Soyabean-wheat became the dominant crop cycle in Malwa region as in the US Midwest or paddy-wheat as in Punjab and Haryana.  
\n
- By 1979-80, the country's soyabean area had reached 0.5 million hectares.  
\n
- It rose further and was 6 mh towards the end of the century, with Madhya Pradesh accounting for 70%.  
\n
- Within MP, soyabean cultivation spread to other districts as well, especially in the neighbouring Vindhya plateau.  
\n

\n\n



\n\n

## **What is the commercial potential of Soyabean?**

\n\n

- \n
  - Soyabean's potential was to an extent derived from sale of its oil domestically.
  - \n
    - But Soyabean had only 18-20% oil content, as against 40-45% in mustard or groundnut.
    - \n
      - So the real money lay in the balance 80-82% de-oiled cake and extractions, also called meal.
      - \n
        - The protein-rich meal could be exported out, especially to South-East/East Asia where it was used as an ingredient for animal feed.
        - \n
          - Realising the potential, business people started setting up solvent extraction plants for processing soyabean.
          - \n
            - From the mid-2000s, value of soya-meal shipments from India soared from just over Rs 1,360 crore to almost Rs 14,500 crore.

\n

\n\n

## What is the recent challenge?

\n\n

\n

- **Production** - The boom in Soyabean production collapsed after 2013-14, along with a crash in global agri-commodity prices.

\n

- Soya-meal exports and Soyabean realisations fell sharply.

\n

- The crisis is not just economic, but ecological too.

\n

- **Water** - The soyabean-wheat crop cycle has led to groundwater overexploitation, more so in Malwa.

\n

- There is now need for digging wells deeper and deeper, as the top aquifers have been exhausted.

\n

- **Pest** - Moreover, soyabean itself has over the years become prone to pest and disease attack.

\n

- Yellow mosaic virus, once a problem confined to Northwest India, has now come even to soyabean in Central India.

\n

- There are also fungal diseases such as collar rot, rhizoctonia root rot and pod blight.

\n

- The pests that are increasingly causing crop damage include

\n

\n\n

\n

- i. white fly (carrier of yellow mosaic virus)

\n

- ii. stem fly (whose larva feeds on the inner part of the stem, making it hollow)

\n

- iii. girdle beetle

\n

- iv. tobacco caterpillar

\n

\n\n

\n

- **Cultivation** - The main reason for pest and disease susceptibility is the absence of crop rotation and growing the same variety year after year.  
\n
- It is now for the policy-makers to address the production issues with this key crop grown in Madhya Pradesh.  
\n

\n\n

\n\n

**Source: Indian Express**

\n

