

## White Revolution 2.0

### Why in news?

Recent [Household Consumption Expenditure Survey \(HCES\) 2022-23](#) highlights the growing importance of White Revolution 2.0 as the top food item both in urban and rural areas is milk.

### Operation flood- White Revolution 1.0

- **Origin-** The [success of green revolution](#) enabled India to launch operation flood.
- **Launch year-** 1970
- **National Dairy Development Board-** It introduced Operation Flood to create a national grid that could streamline the production and distribution of milk across the country.
- **Aim-** To increase milk productivity and ensure competitive market prices for milk.
- **Objectives-**
  - Increase milk production (“a flood of milk”)
  - Improve rural income.
  - Provide affordable milk to consumers.
- **Dr.Vergheese Kurian-** He is called as the Father of the White Revolution as he played a pivotal role in its success and also the founder of Amul, the largest milk producer in India.
- **Phase I(1970-80)-** It was financed by the European Economic Community (EEC) through the World Food Program (WFP) to set up milk cooperatives.
- **Phase II(1981-85)-** It led to the dairy development in the states of Karnataka, Rajasthan and Madhya Pradesh.
- **Phase III (1985-96)-** The emphasis was now on veterinary care and better breeding practices.
- **Outcome-**
  - It transformed the dairy-deficient nation into the global leader in milk production.
  - Women dairy farmers played a crucial role in India’s dairy transformation.
  - As per World Bank report “Operation flood can be viewed as a 20 year experiment confirming the rural development vision”.

### Why there is a need of white revolution 2.0?

- **Inflation-** The all-India modal price of milk has risen significantly, from Rs 42 to Rs 60 per litre over the last five years.
- **Reduction in demand-** Higher prices may result in consumers cutting back on their milk consumption, impacting the overall demand for dairy products.
- **Increased production cost-** The costs associated with fodder, feed, and raw materials have seen a significant increase, prompting dairies to raise procurement prices paid to farmers.
- **Impact on consumers-** Inflation and increased production cost falls on consumers, as there is a limit on how much more consumers can pay for milk before it causes demand destruction.

To know about Basic Animal Husbandry Statistics 2023 click [here](#)

## How India can implement white revolution 2.0?

- **New breeding technologies**- The genetic improvements like sex sorted semen, embryo transfer and in vitro fertilisation can produce more female calves and high yielding cows from existing genetic resources.
- **Sex sorted semen**- There is a 90%-plus probability of only female calves being born, as against 50:50 with conventional semen.
- **Adoption of embryo transfer (ET) technology**- It exploits the high genetic merit (HGM) of existing cows, resulting in multiple calves from a single HGM cow.
- **In vitro fertilization (IVF)** - It is the method of mature ova outside the cow's body, leading to higher embryo production and more calves.
- **Bovine breeding centres**- This would breed a nucleus herd of high-genetic-merit bulls and cows through production of superior semen and in vitro-fertilized embryos for artificial insemination (AI) or transferring to farmers' animals.
- **Animal Nutrition**- There is a need to encourage farmers to cultivate high-yielding protein-rich green fodder grasses.
- **Lower feed cost**- This can be done by reducing the reliance on expensive compound like cattle feed and oil-meal concentrates.
- **Balanced diet**- Farmers are encouraged to implement Total Mixed Ration (TMR) plants to provide a balanced diet in a ready to eat farm, saving farmers the cost of purchasing and storing fodder separately.
- **Lower overall cost**- The government should emphasis on lowering the overall costs of producing milk at the farm-gate, rather than solely relying on increasing procurement prices.

### Steps taken by India to promote milk production

- **Rashtriya Gokul Mission** - It was initiated in 2014 with a focus on the conservation and development of indigenous breeds and improve their genetic makeup.
- **E-Pashu Haat**- An e-market portal connecting breeders and farmers to provide quality-disease free bovine germplasm.
- **Pashu Sanjivni**-An Animal Wellness Programme with the provision of animal health cards along with UID identification.
- **National Animal Disease Control Programme** - It was launched in 2019 to control and eradicate the Foot & Mouth Disease (FMD) and Brucellosis amongst the livestock
- **Animal Husbandry Infrastructure Development Fund (AHIDF)**-It aims to incentivize the investments to establish dairy and meat processing and value addition infrastructure and animal feed plants.
- **National Dairy Development Board**- It was launched in 1965 as a premier institution to accelerate the pace of dairy development on cooperative lines in the country.
- **National Program for Dairy Development**- It aims to strengthen infrastructure for the production of high-quality milk as well as for the procurement, processing, and marketing of milk and milk products.

## References

1. [Indian Express- White Revolution 2.0](#)
2. [NDDB- About operation flood](#)

