Dt. 14.12.2020.

1. **What were the reasons for choosing North-Western India as the epicenter of green revolution? Also, discuss the impact of green revolution on Indian agriculture.**

   Answer:

   Green Revolution in India is a period when agriculture was converted into industrial system due to adoption of modern methods and technology such as High Yielding Varieties, seeds, mechanization, Irrigation facility, use of fertilizers and pesticides.

   - **India was** able to produce just 51 Million tonnes in 1950s and faced severe food shortages till 1960s.There were famines and in 1961 India used to import food grains under PL 480 scheme from USA.

   - **Norman Borlaug,** an Agricultural Scientist & Nobel Prize laureate was invited to India associated by M.S.Swaminathan and seeds for Green Revolution were slowed then.The High Yielding Varieties like IR-8, a Rice variety developed by IRRI (International Rice Research Institute), Philippinesand rust resistant wheat varieties were introduced, the yield of which was 10 times higher than traditional varieties.

   - **Punjab was selected** as first state to start green revolution in India followed by other adjacent states like Haryana and Western U.P. while the Green revolution in India started in 1966.

   - **Centre** initiated the RKVY (Rashtriya Krishi Vikas Yojans) for extending second green revolution especially to cover the Eastern India, comprising Assam, Bihar, Jharkhand, Eastern U.P. , Odisha and W.B.

Reasons for North West to be the epicenter of Green Revolution

- Highly irrigated lands with 90 per cent coverage,supported by free power.

- The average size of land holding in Punjab is above 10 acres (4 Ha) compared to other states in India where more than 85 per cent are marginal and small farmers with less than 2 acres. The larger extents of land helped mechanization of farming on a large scale

- The productivity is much higher (Almost double) in Punjab – Wheat 5017 Kg per hectare and Rice 4500 Kg/ Ha, compared to all India averageof 2872 and 2079 Kg/ha respectively.

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- Agricultural Markets/ Mandis are organized and very efficient and farmer is able to get fair price in the North West.

Impact on Agriculture:

- **Indian** food production on the advent of green revolution, multiplied by 5 to 6 times and the production went up to 291 M.Ts in 2018-19. of which the major share coming from Punjab, Haryana & West U.P, While Horticultural production reaching 300 M.T.s.

- U.P. is the top producer of Wheat with Punjab in 2nd position. In Rice Punjab is the third largest producer after U.P. and W.B.

- India attainedself-sufficiency in food gains with adequate buffers in FCI go downs.

- **India** has the largest extent of arable land in the world and in most of the food grains and horticultural produce India is either number one or two in the world rankings.

- **Green** *revolution has also paved the way* for White Revolution (dairy) Indiabeing largest producer of Milk in the world and in Blue Revolution, India stands number 2 in the world in fisheries.

- As per the 2014 FAO world agriculture statistics, India is the world's largest producer of many fresh fruits like banana, mango, guava, papaya, lemon and vegetables like chickpea, okra and milk, major spices like chili pepper, ginger, fibrous crops such ascotton, jute, staples such as millets and castor oil seed. India is the second largest producer of wheat and rice.

- India is a major exporter of food grains including its exports to China the exports value of India is of $ 30 Billion, India is the top exporter of Rice in the world today.