
1. Risk of Early Locusts Attacks

Prelims Syllabus: Environment

Mains Syllabus: Disaster Management

Why in News?

- Locusts normally arrive during July-October but have already been spotted in Rajasthan. At a time India is battling COVID, they present a new worry with their potential for exponential growth and crop destruction.

Locusts:

- The desert locust (*Schistocerca gregaria*) is a short-horned grasshopper that is innocuous while it is in a “solitary phase” and moving about independently.
- These winged insects differ from normal hoppers and become dangerous only when their populations build up rapidly and the close physical contact in crowded conditions triggers behavioural changes.
- They, then, enter the “gregarious phase”, by grouping into bands and forming swarms that can travel great distances (up to 150 km daily), while eating up every bit of vegetation on the way.
- If not controlled at the right time, these insect swarms can threaten the food security of Countries.

How Seriously Should the first Sightings be Viewed?

- The damage potential of locusts has been limited in India only because of the country hosting a single breeding season — unlike Pakistan, Iran and East Africa, where they also multiply during January-June
- There’s nothing much to worry right now, as the rabi crop has already been harvested and farmers are yet to commence plantings for the new Kharif season.
- The locusts’ bands so observed are less populated. But their timing, though, is cause for concern.
- The normal breeding season for locusts in India is July-October. But this time, they have been sighted by mid-April.
- Last year, too, they were seen towards end-May as isolated grasshoppers.
- The longer time to breed is more conducive for a build-up of gregarious insect swarms, as opposed to solitary, innocuous hoppers.

Control Measures in India:

- India has a Locust Control and Research scheme that is being implemented through the Locust Warning Organisation (LWO), established in 1939.
- It was amalgamated in 1946 with the Directorate of Plant Protection Quarantine and Storage (PPQS) of the Ministry of Agriculture.
- The LWO's responsibility is monitoring and control of the locust situation in Scheduled Desert Areas mainly in Rajasthan and Gujarat, and partly in Punjab and Haryana.
- The LWO publishes a fortnightly bulletin on the locust situation.

What Kind of Damage can they Cause?

- Locusts are polyphagous, i.e. they can feed on a wide variety of crops.
- Secondly, they have the ability to multiply rapidly. A single female desert locust lays 60-80 eggs thrice during its roughly 90-day life cycle.
- It is estimated that a 1-square-km area can accommodate 40-80 million of these insects, making the growth of their swarms exponential quite like the Covid-19 virus.
- What is the genesis of the present locust upsurge, particularly in East Africa?
- It lies in the Mekunu and Luban cyclonic storms of May and October 2018 that struck Oman and Yemen, respectively. These turned large desert areas in remote parts of the southern Arabian Peninsula into lakes, which allowed the insects to breed undetected across multiple generations.
- The swarms attacking crops in East Africa reached peak populations from November onwards while building up since the start of this year in southern Iran and Pakistan.
- Widespread rains in East Africa in late March and April have enabled further breeding.
- Prior to that, the locusts from spring breeding areas of southwest Pakistan and southern Iran would arrive in Rajasthan and Gujarat during May-June.
- They would, then, breed with the onset of the southwest monsoon rains and continue doing so through the Kharif cropping season.

What can and Should be done?

- If the monsoon is good, and in the absence of control operations, the magnitude of attack could be worse than in the 2019-20 rabi season.
- The last year's locust incursions were the first and most significant since 1993.
- Local Authorities in Rajasthan and Gujarat had to treat over 4.30 lakh hectares of infested areas with sprayers mounted on tractors and other vehicles.

Pesticides give Better Control:

- The old generation organophosphate insecticides such as Malathion (96% ultra-low volume aerial application) are effective against locusts.
- About one litre of the chemical is necessary to treat a hectare of their breeding areas, including trees where they halt for the night.
- There is ample stock of pesticides to control any Swarms in India.

