Context:

UN Environment Programme (UNEP) member states recently adopted the “Colombo Declaration” which calls for tackling global nitrogen challenge.

INTRODUCTION:

The Colombo Declaration has been developed with the technical support of the International Nitrogen Management System (INMS), a joint activity of the UNEP and the International Nitrogen Initiative supported by the Global Environmental Facility.

The aim is to halve nitrogen waste by 2030.

A campaign on sustainable nitrogen management called “Nitrogen for Life” is to be launched. It stems from the Sustainable Nitrogen Management Resolution which was adopted during the fourth session of the UN Environment Assembly held from 11 – 15 March 2019 at the UNEP headquarters in Nairobi, Kenya.

The Declaration calls upon UN agencies, other international organizations, development partners, philanthropic agencies, academic and civil society organizations to support its implementation.

It also urges countries to conduct a comprehensive assessment on nitrogen cycling covering policy, implementation, regulation, and scientific aspects at a national level plus sensitize the citizens to understand the natural nitrogen cycle and how human impacts alter its balance.

Why ?

While a critical element for building structures of living organisms and an essential element for the survival of all living things, nitrogen overuse has negative impacts on the planet, biodiversity and is a contributor to the climate crisis.

How Nitrogen is a pollutant?

Nitrogen is an inert gas that’s necessary for life. But we’re changing it into forms that are harmful, overloading the environment with it, and throwing the natural nitrogen cycle out of whack.

Nitrogen compounds running off farmland have led to water pollution problems around the world, while nitrogen emissions from industry, agriculture and vehicles make a big contribution to air pollution.

Over 80% of the nitrogen in soil is not utilised by humans. While over four-fifths of the nitrogen is used to feed livestock, only about six per cent reaches humans in case of non-vegetarian diet, as compared to the 20% that reaches the plate of a vegetarian.

Nitrogen becomes a pollutant when it escapes into the environment and reacts with other organic compounds. It is either released into the atmosphere, gets dissolved in water sources such as rivers, lakes or groundwater, or remains in the soil. While it might lead to favourable growth of species that can utilise this nutrient, nitrogen as a pollutant is often detrimental to the environment and health.

According to the World Health Organization, nitrate-contaminated drinking water can cause reduced blood function, cancer and endemic goiters. Surplus inputs of nitrogen compounds have been found to cause soil acidification. The lowering pH, as a result of the acidification, can lead to nutrient disorders and increased toxicity in plants. It may also affect natural soil decomposition.