(e) The data acquired from ocean observation system is received at Indian National Centre for Ocean Information Services (INCOIS), Hyderabad through satellite, based on which ocean state forecast and tsunami advisories are issued to fisherman communities and local authorities. Inputs are also provided to India Meteorological Department (IMD) to monitor cyclones.

(f) INCOIS has developed an App called SARAT (Search And Rescue Aid Tool) which can predict the search location in the sea up to 10 days.

Impact of pollution on production of foodgrains

2758. SHRI VIJAY PAL SINGH TOMAR: Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) whether due to impact of pollution, several species of living organisms are on the verge of extinction and if so, the details thereof;

(b) whether Government has made any assessment of impact of pollution on nutrient quality of foodgrains resulting in increase in cases of malnutrition among children;

(c) if so, the details thereof; and

(d) the corrective measures taken by Government to save living organisms from extinction and minimise the impact of pollution on production of foodgrains?

THE MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (DR. MAHESH SHARMA): (a) Scientists estimate that globally the rate of extinction of species has increased several times the natural rate, largely because of a combination of factors such as habitat change, over-exploitation, invasive alien species, pollution and climate change.

(b) and (c) Air pollution is known to affect crops by the deposition of Suspended Particulate / Matter (SPM) on leaf surface, entry of gaseous air pollutants such as SO_2 and NO_2 into plants through stomata, and by lowering the light intensity on ground affecting the photosynthesis and, thereby hampering their physiological processes. Preliminary studies conducted at ICAR-Indian Agricultural Research Institute (IARI), New Delhi indicate that if the air pollution load on the crop is reduced by filtering them using filters and charcoal filters in the tunnels, the growth, yield and photosynthesis of crops such as wheat, barley and chickpea were enhanced significantly.

Globally it is documented that environmental pollution together with climate change has shown to impact food production and quality of food grains considerably in various regions of the world resulting in reduction in food availability and macro and micro-nutrients. Pollution from air, water, soil and food has been indicated as an important factor for not achieving nutrition security. Malnutrition is a multifaceted problem, and pollution could be one of the triggering factors for respiratory ailments and associated diseases.

(d) Some important measures taken for consideration of biodiversity and saving living organisms from extinction *inter alia* include survey, inventorization, and threat assessment of floral and fauna resources; assessment of the forest cover to develop an accurate database for planning and monitoring; establishment of Protected Area Network of National Parks, Wildlife Sanctuaries, Conservation and Community Reserves; declaration of eco-sensitive zones around national parks; designating Biosphere Reserves for conservation of representative ecosystems; undertaking of species oriented programmes, such as Project Tiger and Project Elephant, complemented with *ex-situ* conservation efforts.

Measures taken to control air pollution and minimize impact of pollution on production of foodgrains include:

(i) Check/control the level of pollution and improve air quality in the country; notification of National Ambient Air Quality Standards; setting up of monitoring network for assessment of ambient air quality; introduction of cleaner/alternate fuels like gaseous fuel (CNG, LPG etc.), ethanol blending, launching of National Air Quality index; universalization of BS-IV from 2017; leapfrogging from BS-IV to BS-VI fuel standards since 1st April, 2018 in NCT of Delhi and from by 1st April, 2020 in the rest of the country; notification of Construction and Demolition Waste Management Rules; banning of burning of biomass/stubble residue; notifications regarding 'Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring EC and 'Mandatory Implementation of Dust Mitigation Measures for all Construction and Demolition Activities'; notification of Construction and Demolition Waste Management Rules; promotion of public transport network; streamlining the issuance of Pollution Under Control Certificate; issuance of directions under Section 18(l)(b) of

Air (Prevention and Control of Pollution) Act, 1981 and under Section 5 of Environment (Protection) Act, etc.

(ii) The Government has introduced a new Central Sector Scheme on 'Promotion of Agricultural Mechanization for *in-situ* management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi' for the period from 2018-19 and 2019-20 with an outlay of ₹ 1151.80 crore, to stop burning of crop residue.

Long term strategy to tackle air pollution

2759. SHRI P. BHATTACHARYA: Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) whether Government has formulated National Clean Air Programme (NCAP) as a long term time bound national level strategy to tackle the increasing problem across the country in comprehensive manner and if so, the details thereof;

(b) the number of cities that have been selected for implementation of NCAP; and

(c) whether the Central Pollution Control Board (CPCB) has any plan to execute a nationwide programme to curb air pollution and if so, the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (DR. MAHESH SHARMA): (a) to (c) In order to address the increasing air pollution across the country in a comprehensive manner, Ministry of Environment, Forest and Climate Change has finalized the National Clean Air Program (NCAP) as a pan India medium term five-year national level strategy to tackle the increasing air pollution problem across the country. Overall objective of the NCAP is comprehensive mitigation actions for prevention, control and abatement of air pollution besides augmenting the air quality monitoring network across the country. Taking into account the available international experiences and national studies, 20-30% reduction of $PM_{2.5}$ and PM_{10} concentration is targeted by 2024. This is keeping 2017 as the base year for comparison. On the basis of available monitoring data, 102 non-attainment cities have been identified for undertaking air pollution mitigation actions under the Programme. The list of 102 non-attainment cities is given in Statement.