Explanatory Notes on Main Statistical Indicators

Cultivated Land refers to the land that mainly for the regular cultivation of farm crops by using the surface tillage layer, planting more than one harvest a year (including perennial crops cultivated by more than one harvest a year), including cultivated land, newly-developed land, reclaimed land, consolidated land, fallow; It covers the land with some fruit trees, mulberry trees and others; It also covers fixed ditch, canal, road and sill (ridge) with width less than 1 meter in the South and 2 meters in the North; It covers the land for thermal insulation and moisturizing facilities such as greenhouse, greenhouse and plastic film planted directly by surface tillage layer.

Garden Land refers to land for intensive cultivation of perennial woody plants and herbs to collect fruits, leaves, roots, stems, branches and juice, with a coverage rate over 50% and plant number over 70% of rational plant number per mu. Land for nursery is included.

Forest Land refers to land for planting arbor, bamboo, bush shrub. It does not include the wetland where trees grow, the land for greening trees within the scope of towns and villages, the forest within the scope of railway and highway land acquisition, the land for revetment forest of rivers and ditches.

Grassland refers to land mainly for the growth of herbaceous forage crops. It includes sparse forest grassland with tree canopy density less than 0.1, shrub grassland with shrub coverage less than 40%, excluding wetlands with herbaceous plants.

Wetland refers to the land at the intersection of land and water, where the water level is close to or on the ground surface, or there is shallow ponding and is in a natural state.

Land for Urban, Rural, Industrial and Mining Activities refer to urban and rural residential areas, independent residential areas, and the land used by enterprises and institutions such as industrial and mining, national defense and scenic spots outside residential areas, including their internal traffic and greening land.

Land Used for Transport refers to the land for ground lines, stations, etc. used for transportation. It includes civil airport, automobile passenger and freight transport station, port, wharf, ground transportation pipeline, various roads and rail transit land.

Land Used for Water and Water Conservancy Facilities refers to land for water areas, ditches, hydraulic structures, etc. Flood detention area is not included.

Volume of Runoff refers to the total volume of water running through a certain cross section of a river during a certain period of time, reflecting the water resources condition in a country or a region. The formula for calculating volume of runoff is as follows:

River Runoff =Precipitation- Evapotranspiration

Drainage Area Each river has its own main stream and branches to form the water system of the river. Each river has its own catchment's area, which is also called the drainage area of the river.

Out-flowing Rivers refer to rivers directly or indirectly flowing into the sea. The area providing water to the out-flowing rivers is called the out-flowing area.

Inland Rivers refer to rivers in inland dry areas that die away in deserts on the way or infuse into inland lakes. The area providing water to the inland rivers is called the inland area.

Average Temperature refers to the average air temperature on a regular basis, generally expressed in centigrade in China. Thermometers used for meteorological observation are placed in well-ventilated shelters about 1.5 meters above the ground. Therefore, the commonly used temperature refers to the temperature in the shelter 1.5 meters above the ground. The calculation method is as follows:

The summation of daily average temperature of one month divided by the actual days of that month represents the monthly average temperature. The summation of monthly average temperature of a year divided by 12 represents the annual average temperature.

Average Relative Humidity refers to the ratio of actual vapour pressure in the air to the saturation water vapour pressure at the current temperature. The calculation method is the same as that of average temperature.

Precipitation refers to the depth of water in liquid state or solid state (thawed), falling from atmosphere onto the ground without being evaporated, percolating or running off. It is usually expressed in millimeters. The calculation method is as follows:

The monthly precipitation is obtained by the sum of daily precipitation of the month, and the annual precipitation is the sum of monthly precipitation of the 12 months of the year.

Sunshine Hours refer to the actual hours of sun irradiating the earth, usually expressed in hours. The calculation method is the same as that of the precipitation.

Total Water Resources refers to total volume of surface water and groundwater which is from the local precipitation and is measured as the summation of run-off for surface water and recharge of groundwater from local precipitation.

Surface Water Resources refers to total volume of yearly renewable water flow which exist in rivers, lakes, glaciers and other surface water, and are measured as the natural run-off of local rivers.

Groundwater Resources refers to total volume of yearly renewable water flow which exists in saturation aquifers of groundwater, and are measured as recharge of groundwater from local precipitation and surface water.

Non-repeating Quantity between Groundwater and Surface Water Resources refers to the precipitation infiltration recharge volume of groundwater minus the river discharge volume formed by precipitation infiltration recharge.

Water Supply refers to gross water supplied by various sources, including losses during distribution. The water supply includes surface water sources, groundwater sources, and unconventional water sources.

Surface Water Supply refers to withdrawals through the surface water supply system, which can be divided into four categories: storage, flow, pumping and transfer project. For water diversion projects, only the water transferred across primary water resource regions and utilized within the year is counted.

Groundwater Supply refers to the extraction volume from well projects, categorized separately by shallow and deep aquifers.

Non-conventional Water Supply refers to treated wastewater (reclaimed water), harvested rainwater, desalinated seawater, brackish water, and mine (or well) water that can be utilized after treatment or under certain conditions directly.

Water Use refers to gross water used by various off-stream water users, including losses during distribution, while excluding the direct use of seawater and in-stream water use such as hydroelectric generation and shipping.

Water Use for Agriculture includes irrigation water for croplands and forestlands, orchards, grasslands, water replenishment for fish ponds, and livestock drinking water.

Water Use for Industry the water consumption for production activities in industrial and mining enterprises, including primary production water use, auxiliary production water use (e.g., equipment maintenance, transportation, compressed air stations), and supporting production water use (e.g., landscaping, offices, bathrooms, canteens, toilets, health stations). It is calculated based on freshwater intake and does not include internal water reuse.

Water Use for Households and Service includes residential water consumption and public facility water use (covering tertiary industry and construction sectors, among others).

Water Use for Artificial Eco-environment includes urban-rural environmental water use and water replenishment for rivers, lakes, and wetlands with artificial water replenishment projects and specific replenishment objectives, excluding water volumes naturally satisfied by precipitation and runoff.

Common Industrial Solid Wastes Generated refers to the amount of common industrial solid wastes the surveyed units actual generated over the year. The common industrial solid wastes refers to the industrial solid wastes that are generated during the industrial process and are not hazardous wastes.

Common Industrial Solid Wastes Integrated Use refers to amount of solid wastes from which useable materials can be extracted or converted into usable resources, energy or other materials through reclamation, processing, recycling and exchange (including utilizing in the year the stocks of industrial solid wastes of the previous year) generated by surveyed units over the year of the survey, e.g. being used as agricultural fertilizers, building materials, material for paving road or as backfill material. The information should be measured as the unit of generating wastes.

Common Industrial Solid Wastes Disposed refers to the amount of industrial solid wastes disposed, which covers the amount of previous years, through incineration or other methods to change its physical, chemical and biological properties to reduce or eliminate the hazards or land filled in the sites following the requirements for environmental protection by surveyed units over the year of the survey.

Stock of Common Industrial Solid Wastes refers to the amount of solid wastes placed in special facilities or special sites by enterprises for the purposes of integrated use or disposal over the year of the survey. The sites or facilities should take measures against dispersion, loss, seepage, and air and water contamination.

Common Industrial Solid Wastes Discharged refers to the amount of industrial solid wastes dumped or discharged by producing enterprises to disposal facilities or to other sites over the year of the survey.

Hazardous Wastes Generated refers to the amount of actual hazardous wastes generated by surveyed units over the year of the survey, which covers secondary generation during the process of disposal and reuse of hazardous wastes. Hazardous waste refers to those listed in *the National Hazardous Wastes* catalogue or identified as any one of the hazardous properties in light of the national hazardous wastes identification standards and methods. It should be reported following the *National Catalogue of Hazardous Wastes* (2016 Version).

Hazardous Wastes Reused and Disposed refers to the amount of hazardous wastes that are used to extract materials for raw materials or fuel over the year of the survey, and the amount of hazardous wastes which are incineration or specially disposed using other methods to change its physical, chemical and biological properties and thus to reduce or eliminate the hazards, or placed ultimately in the sites following the requirements for environmental protection over the year of the survey. It includes the hazardous wastes generated by the enterprise itself and received from other enterprises.

Year-end Stock of Hazardous Wastes refers to the amount of hazardous wastes specially packaged and placed in special facilities or special sites by enterprises by the end of the year, which covered stock of surveyed units generated and received from other units. The special stock facilities should meet the requirements set in relevant environment protection laws and regulations such as *"Pollution Control Standards for Hazardous Waste Stock"* (GB18597-2001) and take measures against dispersion, loss, seepage, and air and water

contamination.

Domestic Garbage Collected and Transported refers to volume of domestic garbage collected and transported to disposal factories or sites during the reference period. Domestic garbage are solid wastes generated from urban households or from service activities for urban households, and solid wastes regarded as municipal domestic garbage according to the laws and administrative regulations, including those from households, commercial activities, markets, cleaning of streets, public sites, offices, schools, factories, mining units and other sources.

Rate of Domestic Garbage Harmless Treatment refers to the ratio of the volume of domestic garbage harmlessly treated to the volume of domestic garbage produced during the reference period. In practical statistics, as the volume of domestic garbage produced is difficult to obtain, it can be replaced by the volume of collected and transported. It is calculated as:

$$\text{rate of domestic garbage harmless treatment} = \frac{\text{volume of domestic garbage harmless treated}}{\text{volume of domestic garbage collected and transported}} \times 100\%$$

Forest Area refers to the area of trees and bamboo grow with a canopy density above 0.2 degree, the area of shrubby tree according to regulations of the government, area of land under agroforestry and the area of trees planted by the side of villages, farm houses and along roads and rivers.

Area of Planted Forests refer to the area of stable growing forests, planted manually or by airplanes, with a survival rate of 80% or higher of the designed number of trees per hectare, or with a canopy density of 0.20 degree or above (after 3-5 years of manual planting or 5-7 years of airplane planting).

Forest Coverage Rate refers to the ratio of forest area to the total land area within the administrative region. The formula is as follows:

$$\text{forest coverage rate} = \frac{\text{forest area}}{\text{area of total land}} \times 100\%$$

Total Stock Volume of Living Trees refers to the total stock volume of trees accumulated on a certain area of land, including trees in forest, tress in sparse forest, scattered wood and trees planted by the side of villages, farm houses and along roads and rivers.

Stock Volume of Forest refers to total stock volume of timber of tree trunk in a given forest area.

Area of Afforestation refers to the total area of land suitable for afforestation, including barren hills, idle land, sand dunes, non-timber forest land, woodland and “grain for green” land, on which acres of forests, trees and shrubs are planted through manual planting.

Manual Planting refers to technical measures of sowing, planting seedlings and divided transplanting on land suitable for afforestation, including barren hills, idle land, sand dunes, non-timber forest land, woodland and “grain for green” land to increase vegetation coverage rate of forests.

Airplane Planting refers to technical measures of airplane planting with of appropriate artificial aid taken under the influence of natural power to restore certain amount of seedlings on land suitable for afforestation, with an aim of increasing vegetation coverage rate of forests or improving forest quality.

Closed Hillsides for Afforestation is a technical measure by isolation with artificial means to form forest or shrub and grass or improve forest quality land, to the suitable area for forest, forest land without stumpage, sparse forest land, or low quality forest, shrub forest.

Restoration of Degraded Forest In order to improve the vitality and structure of forest, effectively control forest degradation, improve forest quality and restore forest function, management measures are taken to the forest of structural imbalance and stability reduction, function reduction or even loss and natural regeneration ability is weak, which include structural adjustment, species replacement, replanting sowing, grafting rejuvenation, etc.

Artificial Regeneration refers to forest reforming process in logging slash, slash burning, the glade through afforestation.

Natural Reserves refer to the area that protect typical natural ecosystems, natural concentrated distribution of rare and endangered wild animal and plant species, and natural relics of special significance. It has a large area to ensure the safety of the main protected objects, and to maintain and restore the quantity of rare and endangered wild animals and plants and their habitats.

Landslides refer to the geological phenomenon of unstable rocks or earth on slopes sliding down along certain soft surface as a result of gravity.

Collapse refers to the geological phenomenon of large mass of rocks or earth suddenly collapsing from the mountain or cliff as a result of gravity.

Debris Flow refers to the sudden rush of flood torrents containing large amount of mud and rocks in mountainous areas.

Ground Collapse refers to the geological phenomenon of surface rocks or earth subsiding into holes or pits as a result of natural or human factors.

Number of Forest Fires refers to the number of wild fires in forests, woods and woodland outside of cities. In light of the area plagued by fires and the number of casualties, forest fires can be categorized into general forest fires, relatively larger fires, serious forest fires and extraordinary serous forest fires: 1). General forest fires: the destructed forest area is less than 1 hectare, or the fire erupts in other woodland, or the number of deaths is no less than 1 but less than 3, or the number of seriously injured persons is no less than 1 but less than 10 persons. 2). Relatively larger forest fires: the destructed forest area is no less than 1 hectare but less than 100 hectares, or the number of deaths is no less than 3 but less than 10, or the number of seriously injured persons is no less than 10 but less

than 50 persons. 3). Serious forest fires: the destructed forest area is no less than 100 hectares but less than 1000 hectares, or the number of deaths is no less than 10 but less than 30, or the number of seriously injured persons is no less than 50 but less than 100 persons. 4). Extraordinary serious forest fires: the destructed forest area is no less than 1000 hectares, or the number of deaths is no less than 30, or the number of seriously injured persons is no less than 100 persons.

Forest Harmful Organisms refer to the diseases, pests, rats and harmful plants that plague forests, wood, desert and wetland vegetation.

Abrupt Environmental Accidents refer to environmental emergencies that cause or likely to cause significant causalities, serious property damages and pose a major threat and damage to the economic, social or political stability of the country or a region, or have significant social impact that related to the public safety.