Statement of India on Agenda Item 3e during the 6th Session of Committee on Statistics from 16th – 19th October

Mr Chair, Excellencies, Distinguished Colleagues,

The importance of agriculture to the Indian economy cannot be understated. Though we have come a long way from being categorized as a purely agrarian economy, the agricultural and allied sector still accounts for 49 percent of our workforce, 16 percent of the country's gross domestic product and ensures food security to roughly 1.3 billion people.

Providing accurate and disaggregated information flows across the agricultural value chain is vitally important to improve resource utilization, target policy interventions, plan agricultural supply chain deployment, reduce agrarian distress and improve farmer income and crop yield in a sustainable manner, not just for India but for other similarly placed economies around the globe.

The Prime Minister has articulated a vision for 'Doubling Farmers Income by 2022'. All our initiatives in agriculture revolve around this goal.

The **Asia-Pacific Regional Action Plan to Improve Agricultural and Rural Statistics** mentions two laudable goals:

"a)halt the decline in the content and quality of agricultural production statistics by restoring sustainable systems to produce them and making use of new methods and technologies
b) meet the emerging data requirements not only to support policy decisions about the linkage of agriculture to poverty and the environment, but also to monitor how a decision in one area affects the other areas"

National agricultural statistics are a vital part of attaining this goal. Aggregate data can be supplemented and cross validated by techniques such as machine learning.

We are happy to share our experiences with other nations and collaborate towards the cause of sustainable development by utilizing new technologies in socially important sectors.

When we speak of regional connectivity initiatives, we feel that such initiatives must be based on universally recognized international norms, good governance, rule of law, openness, transparency, and equality. They must follow principles of financial responsibility and must be pursued in a manner that respects sovereignty and territorial integrity.

The National Institution for Transforming India has been mandated to drive a National Programme on Artificial Intelligence in the Annual Budget 2018. We released our National Strategy on Artificial Intelligence Discussion Paper on 4th June, 2018. The focus has been on sectors like such as agriculture, health, and education which have a preponderance of public goods and those which have a greater impact on social outcomes and therefore also on the Sustainable Development Goals.

We are pursuing the use of precision agriculture methods to improve agriculture productivity by giving targeted farm advisories based on high resolution satellite and weather data. While the focus is on using Artificial Intelligence techniques, specifically machine learning to give these predictions at a farm level, a desirable byproduct is highly disaggregated data, which can serve as a validation tool for aggregate statistics, especially for jurisdictions using administrative reporting systems.

NITI Aayog is conducting a pilot project using satellite data from remote sensing (Indian Space Research Organization), soil health cards, weather prediction and soil moisture/temperature, crop phenology etc. to give accurate prescriptions to farmers. While it is a 'pilot' the project is being implemented in 10 Aspirational Districts across the States of Assam, Bihar, Jharkhand, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh.

These variables can be good predictors for yield and other statistics. These inputs are proposed to be distilled into specific farm level advisories. India has ~30 million farmers who own smartphones, which is expected to grow 3 times by 2020 and 315 million rural Indians will be using internet by 2020.

- Reputed studies say– digital farming and connected farm services can impact 70 million Indian farmers in 2020, adding USD 9 billion to farmer incomes.
- These are not futuristic scenarios, they are in play today, enabled by a vast digital ecosystem.
- While AI cannot be a full substitute for trained manpower for conducting the work for aggregate statistics, it can when combined with mobile technology, offer effective validation and sanity checks that can increase the accuracy of statistics overall and increase trust in the published figures. Simultaneously, it offers means to effect tailored changes at a micro level, even at farm level.
- On a similar note, the application of blockchain technology to improve the price realization to farmers while making the supply chain more efficient is being assessed.

One of the core users of national statistics, apart from citizens and government is business. In 2016, approximately 50 Indian agricultural, technology based startups ('AgTech') raised USD 313 million.

All of the above schemes, programmes and pilots are rich sources of near real time data and can aid the compilation of national statistics.

By updating our national statistical systems in agriculture in line with current ag-tech business expectations, we can not only target policies at a local level but also enable businesses to target their areas of operation better, thus furthering the cause of the SDGs.