**Country:** People's Republic of Bangladesh

**Committee:**FAO

**Agenda Item 1**: Strategies for advancing sustainable agricultural practices in the green transition

Bangladesh is a small country (56,938 square miles, or 147,470 square kilometers) in the Indian subcontinent that shares borders with India and Myanmar. Bangladesh is one of the most densely populated countries in the world. In 2012, the population was estimated at more than 161 million people, which is almost one-half of the population of the United States but packed into a country 1/67th its size. The capital city of Dhaka is predicted to be the fastest-growing city in the world (current estimates place the city's population at about 7 million). The United Nations (UN) predicts that by 2025, Dhaka will have a population numbering 20 million people. Close to 90 percent of Bangladeshis are Muslim and 9 percent are Hindu. Small numbers of Buddhists and Christians also reside in the country. Bangladesh is also home to a very young population. About 40 percent of the population is under the age of 15, and the median age is 23.6 years.

Bangladesh has made significiant strides in economic and social devlopment since it’s independence in 1971. Despite being one of the most densely populated countires globally, Bangladesh continius to grapple with numerous political, social, economic and environmental challanges. İncluding; political instability, corruption, poverty and over population. Agriculture plays a pivotal role in bangladesh’s economy, serving as a primary food source, a means of livelihood and a major employment sector. Approximately 50% of the countries workforce is provided by this sector. Predominantly rural, 76.75% of Bangladesh’s population resides in villages, where the majority engage in agriculture at a subsistence level. Besides Bangladesh has certain challanges that effect agriculture, for instance, climate change, overpopulation, soil degradation and smallholder farmers Access to agriculturel technology developments. Sustainable agriculturel practices provides the opportunity to solve this problems and making agriculture eco friendly. Sustainable agriculture is the safe way of farming in case of protecting the environment.

In traditional agriculture for growing farm output, farmers use lots of fertilizer and tillage. Heavy amounts of fertilizer can cause issues like, spur plant growth, nitrate pollution of waters and the pollution of the atmosphere with nitrous oxide, other oxides of nitrogen, and ammonia. These gases potentially contribute to the ‘greenhouse effect’ or global heating because of their increasing concentrations in the atmosphere and to the destruction of the stratospheric ozone layer, which protects the earth from ultraviolet radiation. Unlike the traditional agriculture sustainable agriculture practices protect the ecosystem through the more efficient use of natural resources and strengthened capacity for adaptation to climate change and climate variability1. Therefore, their adoption may have significant benefits for the environment. Moreover, the adoption of sustainable practices is likely to help achieve more resilient and productive food systems and enable sustainable production, which would serve to reduce poverty and advance food security2,3. Sustainable agriculture therefore has the potential to directly contribute to several of the United Nations Sustainable Development Goals (SDGs) for 2030, including those relating to poverty (SDG 1), hunger (SDG 2), decent work and economic growth (SDG 8), reducing inequalities (SDG 9), responsible consumption and production (SDG 12), climate action (SDG 13), life below water (SDG 14) and life on land (SDG 15).

Sustainable agriculture Works for nature and humanty for making the environment that traditional agriculture harmed, healthier and more efficient. Just because a farm is organic and alternative does not mean that this farm is sustainable. For a farm to be sustainable it must produce adaquate amounts of high quality food , protect its recources, be both environmentaly safe and profitable and must be suitable fort he economic and agricultural conditions of the country. İnstead of depending on purchased materials such as fertilizers that the farmers in rural areas of Bangladesh overuses, a sustainable farm relies as much as possible on beneficial natural processes and renewable resources drawn from the farm itself. To understand the rationale for sustainable agriculture one must grasp the critical importance of soil. Soil is not just another instrument of crop production, rather it is a complex, living , fragile medium that must be protected and nurtured to ensure its long term productivity and stability. Soil organic matter is important in relation to soil fertility, sustainable agricultural systems, and crop productivity, and there is concern about the level of organic matter in many soils, particularly with respect to global warming. Being integral to all functions of terrestrial ecosystem, soil is intended to produce food for feeding the growing population of the World.

Sustainable agriculture integrates four main goals:

1. Productivity,

2. Environmental stability,

3. Economic profitability, and

4. Social and economic equity.

Many different terms have used to imply greater sustainability in agricultural systems than in prevailing systems (both pre-industrial and industrializes). Each emphasizes different values, priorities and practices.

One most important component of agricultural sustainability is productivity. Productivity means capability of farm production. It is related to judicial use of soil, water, propagation materials, labours, fertilizers and cost.

Second, interpretation of sustainable agriculture focuses on types of technology in particular setting, especial strategies that reduce reliance on non-renewable or environmentally harmful inputs. These include eco-agriculture, perma-culture, organic, ecological, low-input, biodynamic, environmentally-sensitive, community-based, farm-fresh and extensive strategies. There is intense debate, however, about whether agricultural systems using some of these terms actually qualify as "sustainable". Ecological- the core concerns are to reduce negative environmental and health externalities, to enhance and use local ecosystem resources, and preserve biodiversity. More recent concerns include broader recognition for positive environmental externalities from agriculture.

Third, Economic perspectives on agricultural sustainability seek to assign value to ecological assets, and also to include a longer time frame in economic analysis. They also highlight subsidies that promote the depletion of resources or unfair competition with other production systems.

Forth, social & economical equity. Socio-economical and political-there are many concerns about the equality of technological change. At the local level, agricultural sustainability is associated with farmer participation, group action and promotion of local institutions, culture and farming communities. At the higher level, the concern is for enabling policies that target poverty reduction.

In bangladesh’s agriculture there are issues that can be solved with sustainable agriculture.

1. Loss of arable land

Bangladesh has lost about 1 million ha of productive arable land from 1983 to 1996. That is about 80,000 ha of agricultural land per year are going out of crop production. Major factors responsible for land loss are urbanization, human settlement, building of infrastructure, and river erosion.

It is essential to review the present land use policy with the revelant experts. Professionals and farmers, representatives and update it base don their suggestions.

1. Population growth

Another major challange to agriculture is the increase in the growt of population. Growth rate of population present stands at 1.26%. Population is increasing 2 million per year and the total population would be around 233 million by 2050 if the current growth rate continues.

1. Climate change

Atmospheric CO2, CH4, SO2, N2O are mainly responsible for temparature increase resulting in the rise of sea level. Temperature rise by 1.0 C would inundate 18% area of bangladesh as indicated . at the same time the country is affected frequently by flood, drought, cyclone, and salinity due to climate change

1. Imbalanced use of fertilizers

Farmers normally use urea in recommended doses. Because of high prices, they apply P and K fertilizers at the rates that are far below the recommended amount. Chemical fertilizers are not normally integrated with organic manures. İt is thus evident that farmers virtually do not use balanced fertilizers that are necesarry for high productuvity.

1. İnadequate credit support for farmers

About 90% farmers of bangladesh are small and marginal. They are very often constrained by finance and thus cannot afford high costs for managament. They have very limited Access to institutional credit because of collateral requirement. At present only 27% of farmers receive institutional credit.

In Bangladesh, the condition of agricultural labour availability is getting more critical day by day due to increase disparity between urban and rural wages. Agricultural labour generally far below accepted social standards and legal protections in other forms of employment. Policies and programs are needed to address this problem, working toward socially just and safe employment that provides adequate wages, working conditions, health benefits, and chances for economic stability. To be more sustainable over the long-term, labour must be acknowledged and supported by government policies, recognized as important constituents of Land Grant Institute, and carefully considered when assessing the impacts of new technologies and practices.For making bangladesh’s agriculturfe more sustainable these are our recommendations;

1. To introduce sustainable agriculture practice for attaining household food security, livelihood, and finally alleviation of poverty,

2. Improve access to as well as the quality of information education and training program on sustainable agriculture for farmers and extension workers.

3. Policy advocacy and lobbying in favour of sustainable agriculture with GOs, NGOs,private and multilateral organizations.

4. More research and understanding needed on institutions links between applied research and farmer.

5. To raise awareness/social mobilization on sustainable agriculture.

6. Build up partnership with GO's, NGOs, networks, private sector, institutions, research organizations, other related organizations to promote sustainable agriculture.

7. To establish resource center on sustainable agriculture.

8. Ease biomass constraints e.g. provide modern cooking fuel to rural households; encourage incorporating forage legumes in the cropping systems.

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