Improving Agricultural Productivity, Water Use Efficiency and Strengthening Rural Livelihoods

M A Akmall Hossain Azad

Additional Secretary, Ministry of Agriculture

Government of the People's Republic of Bangladesh

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Overview of the presentation

1. **Introduction**
2. **Agricultural productivity**
   - **Research and Technological Innovation for increased productivity**
   - Seed Production and supply system
   - Opportunities for Increasing Agricultural Productivity
   - Crop Production: Challenges
3. **Water Use Efficiency:**
   - Growth of Irrigation
   - Opportunities for Increasing Water Productivity
4. **Strengthening Rural Livelihoods**

Introduction

- Agriculture contributes 21% to GDP & provides 52% of the employment opportunities
- Bangladesh achieved significant progress in food production since last three decades
- But still there is prevalence of endemic poverty
- Population around 148 million (40% are calorie poor (<2122 kcal) & 20% hard core poor (<1805 kcal))

Introduction

- **Goal of agriculture**: to increase production of crops by increasing their productivity and water use efficiency; and Improving rural livelihoods by reducing poverty through development & dissemination of sustainable technology

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Agricultural productivity

The productivity of agriculture depends on

- use of High Yielding Varieties (HYV),
- improved management practices,
- efficient use of irrigation water,
- pest management,
- soil health management
- and other related factors which are discussed below

Factors to promote Ag. Productivity

i. **Research and Technological Innovation for increased productivity**

ii. **Seed Production and supply system**

iii. **Opportunities for Increasing Agricultural Productivity:**

- **Input use efficiency for productivity enhancement**
- **Yield gap reduction**
- **Replacement of traditional varieties by modern varieties (HYV & hybrid)**
- **Crop diversification**
- **Breaking the yield stagnancy of modern varieties by hybrid and super rice**
- **Adoption of integrated crop production technologies**
- **Integrated nutrient management**
- **Farm mechanization**
- **Bio-technology research and development**
- **Subsidy in agriculture**

Factors to promote Ag. Productivity (contd.)

- **iv. Crop Production: Challenges**
  - **Climate change and agriculture**
  - **Soil Degradations**
  - **Pest Infestation**
  - **Lack of Infrastructure and Power Supply**
  - **Global Warming and Sea-level Rise**
  - **High Population Growth and Land Scarcity**
  - **Tidal upsurge, Storms, Earthquakes, etc**

Water Use Efficiency:

- Water: most vital physical factor for agricultural production after land
- water scarcity presents a big threat to future food production
- many fresh water sources (surface & ground) are depleting faster
- Pumping water (surface + ground) dominates the irrigation system in Bangladesh (90%), while large diversion type surface irrigation system comprises less irrigation area (10%).
- Water scarcity is managed through two options in Bangladesh that is, irrigation and crop management

Growth of Irrigation

Year	Irrigated Area, ha by STW, DTW, LLP
1972	357,726
1975	576729
1980	894413
1985	1195144
1990	2059014
2000	3957251
2005	4650000

Opportunities for Increasing Water Productivity

- Capacity utilization of minor irrigation system
- Command Area Development
- Drought alleviation
- Increasing water use efficiency
- Alternate Wetting and Drying (AWD) Method for Water Saving
- Salinity management
- Arsenic in Water
- Institutional arrangement

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Strengthening Rural Livelihoods

- Dissemination of agricultural technologies for improvement of rural livelihoods
- Opportunities both for domestic and international markets
- Creating employment opportunity especially for the women
- Diversification of high value crops
- Export promotion and Development of AEZ based technology
- Agro-processing Activities
- Revamping agricultural marketing system
- Supply chain development

THANK YOU

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