Republic of the Union of Myanmar
Ministry of Agriculture, Livestock and Irrigation

Irrigation and Water Utilisation
Management Department (IWUMD)
• Myanmar: Agro-based Country and agriculture sector is the backbone of its economy
• Total utilization of nation’s water at present is about 56 km³ and that is only 5% of total water potential
• Mainly for agriculture sector and some smaller quantities for domestic use, industrial use and other purposes
Irrigation Works Include

- **Land area**: 67.66 mill. ha
- **Cultivable Land**: 17.70 mill. ha
- **Population**: 54.36 mill.
- **Cultivable land availability per person**: 0.33 ha
- **Annual inflow of Water resources**: 1081.3 km³
- **Irrigated area under various means**: 2.20 mill. ha

**Water Resources and Status of Utilization**

- **Annual utilization of water for cultivation**: 39.55 km³
- **Water availability per acre for whole of Myanmar**: 1.60 m
- **Water availability for one acre of cultivable land**: 6.30 m
- **Current percentage of annual usage of water for cultivation**: 6%
## Water Resources Management

<table>
<thead>
<tr>
<th>Drinking water and sanitation</th>
<th>Agriculture and Irrigation</th>
<th>Hydropower</th>
<th>Rivers and inland water transport</th>
<th>Flood and Cyclone hazards</th>
<th>Forestry and Mangroves</th>
<th>Industry, mining and strong economic dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe drinking water</td>
<td>Sustainable livelihood of people</td>
<td>Prolong lifetime of dams</td>
<td>Erosion control</td>
<td>Prevent flash floods</td>
<td>Planned reforestation</td>
<td>Water quality control</td>
</tr>
<tr>
<td>Piped water supply</td>
<td>Upgrade irrigation systems</td>
<td>Improve sediment management</td>
<td>Integration of MoALI/MoTC for river water supply</td>
<td>Early flood warning systems</td>
<td>Aquaculture and mangrove resaturation</td>
<td>Water utilisation savings</td>
</tr>
<tr>
<td>Solid waste collection</td>
<td>Drainage improvement</td>
<td>Raise installed capacity</td>
<td>Improve navigation channels</td>
<td>Improve data collection chain/evacuation</td>
<td>Conservation mangroves for flood protection</td>
<td>Support decision making by SEIA</td>
</tr>
<tr>
<td>Sewage waste treatment</td>
<td>Modernization of polders</td>
<td>Implement ation of EISA</td>
<td>Stabilize inland river ports</td>
<td>Continuation of shelter scheme</td>
<td>Improve awareness of vulnerability</td>
<td>Developm ent of eco-tourism</td>
</tr>
<tr>
<td>Water consumpti-          on saving</td>
<td>Sustainable fishing and aquacultures</td>
<td>Harbour and navigation development</td>
<td>Multi-purpose dam operation</td>
<td></td>
<td></td>
<td>Water foot print</td>
</tr>
</tbody>
</table>

Ref: Myanmar IWRM Strategic Study, Executive Report, 2014
How to get Agriculture Water

- It is estimated about 69% of surface/ground water, around the globe, is consumed as the agriculture water (FAO, 2002)
- Agriculture water can not get sufficiently from rainwater in some part of the country
- Irrigation water has to be supplemented as agriculture water
- Irrigation water come from surface water/river water as well as ground water
- Surface water – IWUMD (Irrigation)
- River water and Ground water - IWUMD(Water Resources Utilization)
Irrigation and Water Utilisation Management Department (IWUMD)

- Governmental organization under the Ministry of Agriculture, Livestock and Irrigation (MoALI)

- Main responsibility of IWUMD is sustainable operation and maintenance of (Irrigation) water management

- Another responsibility of IWUMD is operation and maintenance of flood protection embankments and polders system all over the country

- IWUMD operates, maintains and manages 581 irrigation facilities and 479 flood protection and drainage facilities in the country
IWUMD (Irrigation)

– Water resources development: Storage reservoirs
– Water resources management: Weirs and Sluices
– Irrigation network system development
– Flood protection: Embankments and Polders

<table>
<thead>
<tr>
<th>Irrigable Area ('000ha)</th>
<th>Flood protected area ('000 ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dam</td>
</tr>
<tr>
<td>743.00</td>
<td>401.42</td>
</tr>
</tbody>
</table>
## Increase in Storage Capacity of Dams and Tanks

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Particulars</th>
<th>Tanks/Reservoirs (No.)</th>
<th>Storage Capacity (MCM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Completed Tanks/Reservoirs before 1988</td>
<td>138</td>
<td>2,333.70</td>
</tr>
<tr>
<td>2</td>
<td>Completed Tanks/Reservoirs up to 2016</td>
<td>308</td>
<td>24,953.26</td>
</tr>
</tbody>
</table>

MCM- million cubic meters
IWUMD (Water Resources Utilisation)

– River water: Pumping stations
– Canal network system development

<table>
<thead>
<tr>
<th>Name of River</th>
<th>Ayeyar-wady</th>
<th>Chin-dwin</th>
<th>Than-lwin</th>
<th>Sit-taung</th>
<th>Mu</th>
<th>Dokehta-wady</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Projects</td>
<td>86</td>
<td>22</td>
<td>6</td>
<td>29</td>
<td>24</td>
<td>27</td>
<td>196</td>
<td>390</td>
</tr>
<tr>
<td>Command Area (ha.)</td>
<td>118794</td>
<td>39358</td>
<td>3474</td>
<td>11150</td>
<td>13072</td>
<td>7632</td>
<td>109280</td>
<td>302760</td>
</tr>
</tbody>
</table>

Completed, Ongoing and Planned River Water Pumping Projects on various rivers
IWUMD (Water Resources Utilisation)

– Ground water resources development: Tube wells
– Canal network system development

<table>
<thead>
<tr>
<th>Sr</th>
<th>Description</th>
<th>Pump Irrigation</th>
<th>Ground Water</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>Hectare</td>
<td>No.</td>
</tr>
<tr>
<td>1</td>
<td>Completed</td>
<td>332</td>
<td>204264</td>
<td>12508</td>
</tr>
<tr>
<td>2</td>
<td>On Going</td>
<td>35</td>
<td>95700</td>
<td>2114</td>
</tr>
<tr>
<td>3</td>
<td>Planned</td>
<td>23</td>
<td>2796</td>
<td>6307</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>390</td>
<td>302760</td>
<td>20929</td>
</tr>
</tbody>
</table>

Sr: Serial number
Description: Status of the project
Pump Irrigation
- No.: Number of projects
- Hectare: Total area in hectares
Ground Water
- No.: Number of projects
- Hectare: Total area in hectares
Total
- No.: Total number of projects
- Hectare: Total area in hectares
How did the country develop their Delta?

- **Flood Resilience Delta**
  - Flood protection works
  - Flood fighting practice

- **Food Secure Delta**
  - Polder system for agriculture development
  - Irrigation and drainage

- **Climate Resilience Delta**
  - After Nargis Cyclone, evacuation of local people - cyclone shelters, drinking water ponds and storm shelter embankment (Hillock) were built
  - Early warning system
  - Awareness raising for local people
  - Myanmar Action Plan on Disaster Risk Reduction (MAPDRR)
Lessons Learned

• After the Nargis Cyclonic Storm, more attention is given to disaster preparedness and early warning system
• Awareness raising for the local people
• Relief and evacuation program
• Practising the disaster preparedness drill
• Importance of well collaboration of government, INGOs and NGOs
Important Issues

- Salinity Intrusion
- Lack of Infrastructure and asset management
- Mangroves and delta degradation
- Adverse water and environmental quality
- Public health
- Flooding and lack of drainage
- Livelihood limitations
- Lack of knowledge and innovation
Expected In the Near Future

- Development of Integrated Delta Strategy
- Adoption of Adaptive Delta Management
- Master Plan for Resilience Urban Delta
- Phase by Phase realization of actual implementations
Conclusions

- Myanmar is primarily an agricultural country. It has been endowed with an abundance of land and water resources and also with adequate manpower.

- As agriculture remains pivotal for the overall economic development of the nation, the State has been rendering all-out assistance and strong support from all perspectives for its enhancement.

- IWUMD under MOALI has diligently conformed to the State’s objectives with the construction of new infrastructures, and maintenance and efficient operation of the existing irrigation facilities.

- The Department has also in addition, and as one of its main tasks, been actively engaged in water development planning, and the furtherance of irrigation for food security.
THANK YOU FOR YOUR KIND ATTENTION!

Zaw Lwin Tun
Irrigation and Water Utilisation Management Department
Ministry of Agriculture, Livestock and Irrigation