Integrated Water System Development Exemplified by PanHlaing River Rehabilitation Project

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Country Myanmar
Area: 676,577 Sq-Km
Population: 51,419,420

Ayeyarwady Region
Area: 35,032 Sq-Km
Population: 6,175,123

Yangon Region
Area: 10,170 Sq-Km
Population: 7,355,075
- PanHlaing River is one of the main tributaries of Ayeyarwady River and flows into Hlaing River near the Yangon City.

- The main function of PanHlaing River is contributed as drainage channel in flood season and also used for navigation all year round.

- In the past decades, functions of PanHlaing River is deviated due to siltation in the main course.

- The length of PanHlaing River from junction with Kokkowa River to the mouth is about 34 miles (54.7 km) and it can use only 10 miles (16.1 km) for navigation at present.

- Rehabilitation (Re-excavation) Project will be initiated and setup the plan for development of PanHlaing River including its surrounding.

- PanHlaing Sluice Gates construction is one of the infrastructures development.
Total length of PanHlaing River to be rehabilitated (re-excavated): 54.7 km
Rehabilitation of PanHlaing River Project

Location of PanHlaing River (Kokkowa River - Hlaing River)

Total length of PanHlaing River to be rehabilitated (re-excavated): 34 miles (54.7 km) [7.5 miles in Ayeyarwady; 26.5 miles in Yangon]
- **Objectives of the Project**
  - To achieve the original channel morphology of PanHlaing River especially in the manner of drainage purpose and navigation
  - To supply the fresh water for agricultural development scheme and Industrial zone
  - To prevent the sea water intrusion (saline water) and siltation problem
  - To establish the agricultural production zone targeted for rural area development
Investigation Works Undertaken

- Topographic Area Survey
- Hydrological Investigation & Analysis
- Geological Investigation
- Socio-economic Survey

Rehabilitation Works Undertaken

- Construction (9) - RD 0+000 to RD 46+000
- Construction (1) - RD 46+000 to RD 90+000
- Construction (9) - RD 90+000 to RD 120+000
- Construction (1) - RD 120+000 to RD 145+000
- Yangon Region O&M Branch - RD 145+000 to RD 181+500
Benefits of the Project (For Agriculture)

Total Flood Protected Land Area 48,065 hectares

Total Flood Protected Crop Area 44,778 hectares

In Ayeyarwady Region

NyaungDon Township

- Flood Protected Land Area 7,614 hectares
- Flood Protected Crop Area 6,096 hectares

In Yangon Region

TwanTe Township

- Flood Protected Land Area 30,623 hectares
- Flood Protected Crop Area 30,212 hectares

HtanTabin Township

- Flood Protected Land Area 9,828 hectares
- Flood Protected Crop Area 8,470 hectares
Ayeyarwady Region, Length = 7.52 miles

PanHlaing River at 2003, near Khat thi ya sluice gate, RD 35+000

Mya Ge sluice gate, RD 46+000

PanHlaing River at 2014, near Khat thi ya sluice gate
Yangon Region, Length = 26.6 miles

PanHlaing River at 2003
Sandayaw sluice gate
Drain out water to PanHlaing River

PanHlaing River at 2014
Sandayaw sluice gate
Drain out water to PanHlaing River
PanHlaing River Rehabilitation Works

Before

PanHlaing River at RD 0+000

During Construction

PanHlaing River at RD 26+000

After
PanHlaing River Rehabilitation Works

Before      | During Construction | After
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PanHlaing River at RD 139+000 To RD 140+000

PanHlaing River at RD 145+000 To RD 160+695
PanHlaing River Rehabilitation Works

Before

During Construction

After

PanHlaing River, Temporary Dyke at RD 158+000

PanHlaing River, Temporary Dyke at RD 174+750
PanHlaing River Rehabilitation Works

- RD 8+000 to RD 10+000 Embankment / Gangar Road way
- RD 10+000 Than payar creek sluice
- RD 56+000 Mingalar sluice gate
- RD 58+000 Kha Naung Paw and Lay Ein Su Village Bridge
- RD 67+000 Outlet
- RD 78+150 Culvert
PanHlaing River Rehabilitation Work at Confluence of Kokkowa River and PanHlaing River (RD 0+000)
PanHlaing River Rehabilitation Work at RD 46+000 to RD 50+000
PanHlaing River Rehabilitation Work at RD 145+000
Temporary Dyke Construction at RD 175+000
Conclusions

- Irrigation Water Supply, Drainage and Flood Protection for Land and Crop Areas
- Fresh Water Supply for Possible Expansion of the Urbanized Area of Yangon City
- Navigation
- Better Socio-economic, Trading and Transportation Conditions for Local Rural Communities
Thank You for Your Kind Attention

For You