



# Inland River Channel Improvement and Ways Forward

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# The Rivers System in Myanmar

Name of River	Navigable Length (Km)
Ayeyarwaddy River	1534
Chindwin River	730
Thanlwin River and rivers in Mon State	380
Rivers in Ayeyarwaddy Delta	2404
Rivers in Rakhine State	1602
Total	6650



# 1. Discharge Control

Dams for discharge control to serve solely navigation purposes have never proved to be feasible, because of the high initial outlay associated with its implementation.

The aim of discharge control is to change the seasonal distribution of natural river flows into regulated flows for beneficial use. Time distribution patterns of regulated flows reflect the time dependent water requirements from the various users. These patterns mainly depend on the prime purpose for which discharge control is imposed.

Power generation / irrigation / Flood control / Navigation

## 2. Water Level Control

1. Fixed weir – fixed crest level
2. Adjustable weir – movable crest level

### 3. Bed Regulation

Nature –

#### 1. Temporary

- Bandalls
- Bottom and surface panels
- Recurrent dredging

#### 2. Permanent

- Wooden Pile Groyne
- Rock Groyne
- Steel Cable Groyne
- Deflectors
- Branch Closing

#### 3. Dredging

Once dredging is used to improve navigation conditions, it should determine the following factors:

- Layout and alignment of the dredged channel ;
- Dimensions of the dredged channel;
- the type of dredge to carry out dredging operation; and
- the site for depositing the dredged material.





## **Wooden Pile Groyne (Bham Maw Waterways Ayeyarwady River)**



## Wooden Pile Groyne (Mawlike-Chindwin River)





## Rock Groyne ( Ahlone, Chindwin River )







## Rock Groyne ( Ahlone, Chindwin River )





## Rock Groyne (Monywa Waterways -Chindwin River)







## Wooden Pile Groyne (Monywa Waterways Chindwin River)





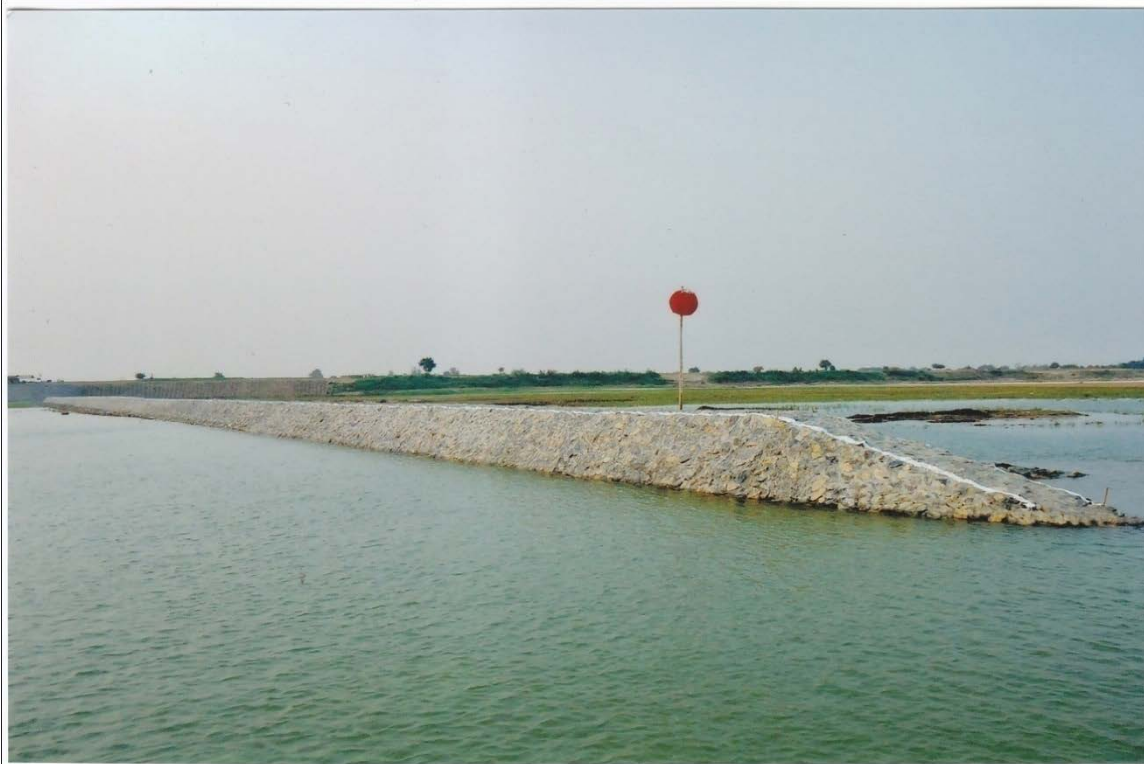
## Deflector ( Bo Myat Tun Bridge )



## Stone Groyne (Pyay-Ayeyarwady River)







**Stone Groyne**  
**(Latsaungyu Waterways**  
**-Ayeyarwady River)**



## Branch Closing





## Branch Closing (momike-Ayeyarwady River)



## Bank protection at Zalon ( Ayeyarwady River)







## Bank protection at Zalon (Ayeyarwady River)







## Bank protection at Uru Bridge (Uru River)





## Dredging work at Lawkananda Pumping Station (Ayeyarwady River)





## Dredging work at Mandalay port(Gawwein)







## **Dredging work at Bhamo Maw Waterways ( Ayeyarwady River)**



# Conclusion with Future Needs

- (1) Existing regular river training works are insufficient to meet the present situation of national demands.**
- (2) Only few parts of the Master Plan for the development of the Ayeyarwady and lower Chindwin rivers have been implemented.**
- (3) River training activities should improve both in performance and methodology.**
- (4) To improve the navigation of Chindwin river and Ayeyarwady river in terms of (2) meter and (3) meter Least Available Depth respectively.**
- (5) To harmonize the inland river Channel infrastructure development and fleet optimization.**
- (6) To reduce the environmental impact of river region by human activities such as exploring gold, jade, etc, by implementing the enacted river law.**
- (7) To apply the physical & mathematical model study at constraints for consideration of river training activities.**



# THANK YOU

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