

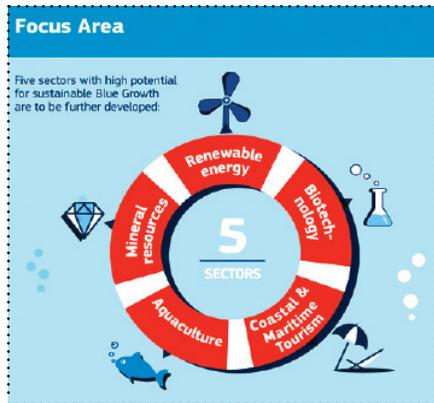


Blue Economy - Wave 82

(Series on "Blue Economy" By Capt. Gajanan Karanjikar)



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Blue Economy and National Waterways (cont..)

Concept of Golden Inland Waterway (GIW)

The most challenging task is to identify the threshold for GIWs exploitation under ecological considerations, which could be specifically quantified by establishing a set of indices to measure ecological pressures such as river fragmentation, wetland disconnectivity, flow disruption, and loss of biodiversity.

Furthermore, eco-efficiency is another effective parameter used to measure regional sustainable development, which is evaluated according to multiple dividends arising from basic need, economic growth, resource conservation, and ecological protection. Previous studies have adopted the ratio between economic performance (e.g. Gross Domestic Product, (GDP)) and environmental impact (e.g. ecological footprint) to evaluate regional eco-efficiency and to explore the decoupling effect of resource consumption, pollution emissions, and economic growth.

Sustainability of global Golden Inland Waterways

The framework integrates three primary sectors, i.e. GIWs exploitation, riverine ecosystem, and regional development. First, the stage of development for each of the GIWs is primarily determined from the regional development sector. Second, regional development would stimulate waterway transport need and require expansion in bearing capacity of specific GIWs. Third, the exploitation ratio is identified in the GIWs exploitation sector for the goal of regional development, but should not exceed a certain threshold due to ecological considerations. Fourth, ecological pressure from engineering practice is assessed in the riverine ecosystem sector to maintain the fundamental ecological services for regional development.

To promote a high level of potential socio-economic development, GIWs must achieve a proper balance between bearing capacity and transport need. However, these are frequently inconsistent because both undergo separate dynamic changes. The variation in coordination between transport need and bearing capacity was tracked using a consistency index (CI) defined as the ratio of freight transport

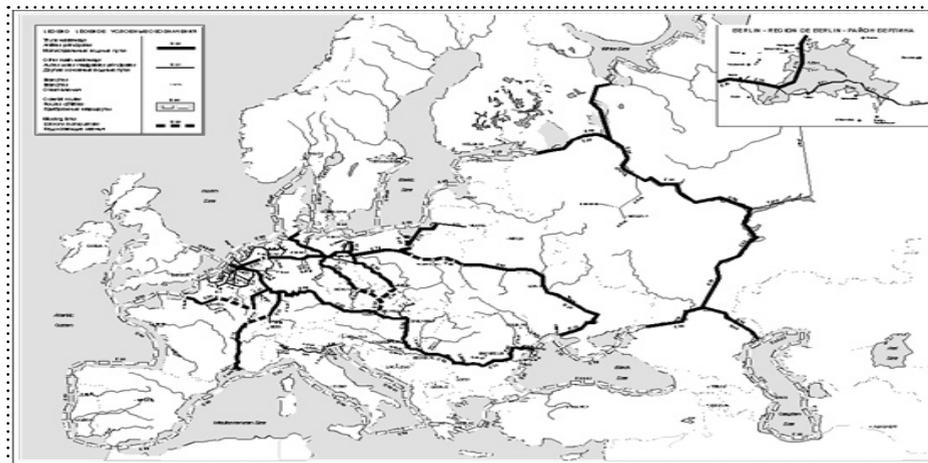


Figure: Network of European riverine system and Russian Waterways.

volume to bearing capacity of inland waterways (see Methods) during different GIW development stages.

Health of riverine ecosystems impacted by GIW exploitation.

Engineering projects during waterway construction greatly influence structures and functions of river ecosystems from morphological, hydrological, and biotic perspectives. An ecological pressure index (EPI) was introduced to evaluate the engineering impact on functionality of the river ecosystem, notably the key components of habitats such as channel, riparian, floodplain, and flow environments. Continuous river networks are fragmented by navigational lock-dam systems. Natural physical and biological interconnections between river channels and their floodplains are severed by river channel deepening and widening projects, and shoreline fortifications. Local riparian and floodplain habitats are degraded by channelization and bank hardening during waterway exploitation.

The hydrological regimes of rivers alter due to the effect of navigational requirements on flow regulation. All these foregoing habitation alterations further influence the biodiversity of riverine ecosystem.

In the next article we will see the implication of the sustainable development of GIW.

Implications for sustainable development of GIWs.

The comprehensive framework for assessing GIWs sustainability (Fig. 1) is capable of communicating interactions among disparate data by providing links between regional socio-economic development, GIWs exploitation, and human pressure on the riverine ecosystem. In particular, the underlying metrics enable different options to be prioritized and respectively implemented, postponed, or even discounted according to expert judgement, which should be useful to decision makers concerned with basin-wide economic development and ecological restoration. A sensible way of undertaking this is to recommend strategies according to the state of development of the river basin under consideration. For a GIW at initial stage of development, the GIW has insufficient transport need due to low socio-economic development level. With emerging socio-economic development, transport need is stimulated and waterway regulation projects are required to expand GIW bearing capacity through improved waterway conditions, suggesting increases in CI, ER, and potentially EPI. As GIWs transform from the initial to the developing stage in the forthcoming decades, planners should implement strategies that are not too conservative in order to exploit socio-economic opportunity.

ONGC invites tender for oil vessel

NEW DELHI
Sagar Sandesh News Service

A Tender for charter hire of an oil vessel by ONGC has drawn criticism from the shipping industry for disregarding safety requirements. The tender allows companies that do not have statutory certificates, class certificates (certificate of stability) and insurance to bid for transport of diesel along the Indian coast, according to the tender documents floated by ONGC on May 11.

The tender document reviewed by The Indian Express states that all certification showing that the vessel is seaworthy should be valid on the date of an inspection, which will

be carried out by a third party on behalf of ONGC after a ship is selected through the bidding process.

It does not have any clause specifying that a vessel should have the certificates before applying for the bid.

This essentially means that a vessel without having statutory certificates can also bid for the tender and obtain certificates after it gets the contract.

The norm followed by ONGC provides entry to non-operating unseaworthy vessels

Sources said that ONGC has received bids from companies owning vessels that have been

arrested for non-payment of dues to vendors or have been detained by Directorate General (DG) of Shipping for lack of maintenance at various ports, including the Kandla Port and Chennai, as recently as January 2021.

Experts said that this norm followed by ONGC and other Indian companies provides an entry to non-operational vessels, which are not seaworthy for transportation of petroleum products putting the environment and lives at risk.

"Vessels should have the statutory certificates and should be seaworthy before they bid for a tender and not after they are allocated the work. This will greatly improve the quality of bids that oil companies get when they float tenders and will also ensure that shipping companies do not push vessels, which are not seaworthy," said Arpan Rajput, a maritime lawyer.

"Internationally, companies are not permitted to bid for such tenders if they do not have statutory certificates... Oil companies in India should tighten the norms and should not allow third-grade vessels to enter the system," said Anil Devli, chief executive officer at Indian National Shipowners Association (INSA).

The barge accident at Bombay High killing 86 leading to ONGC suspending three senior officials

The procurement of the oil tanker vessel by ONGC assumes significance as the oil company was in the spotlight last month for the barge accident at Bombay High during Cyclone Tauktae that led to the death of 86 workers in the Arabian Sea and endangered the lives of hundreds more.

Following the accident, ONGC has suspended three senior officials, pending an inquiry by a high-level committee instituted by the Ministry of Petroleum and Natural Gas into the entire incident.



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