

Developing Inland Waterways in Nepal

Prospects and Challenges Galore

The perennial Himalayan rivers that transverse the entire length of Nepal can emerge as an alternative route of transport connectivity in the landlocked country. These rivers that merge with the *Ganges* and ultimately reach the Bay of Bengal through India and Bangladesh could provide supplementary passage for access to the high sea. Nepal does not have any navigable river network. Besides, any semblance of navigation is limited to wooden boats used for river crossing.

Development of river navigation has found a mention in different policies and plans related to water resources and transport management. However, as water issues have always been dominated by energy development and transport concerns are dictated by roadways, river navigation is still waiting for a concrete and result-oriented substantive policy-level action to determine the future course of direction. Nepal has not been able to prepare a plan to develop alternatives to roadways even as potential waterways remain unexplored.

Despite the potential of developing Nepali rivers as waterways for transboundary connectivity, the present state of water transport begs the question whether this idea could be translated into reality. A lack of policy coherence, a dearth of studies on the feasibility of water transport and a general lack of interest are keeping the potential untapped. Against this backdrop, this Policy Brief explores the prospects and challenges of developing a viable water transport system in Nepal domestic as well as cross-border — while analysing the probable impacts on livelihoods along riverfronts.

This Brief is based on the findings of a country diagnostic study, which focussed on the *Koshi* River Basin and the *Gandaki/Narayani* River Basin. The study was based on a literature review and interviews held with experts and stakeholders, including inhabitants of the areas impacted by water transport, boats operators, and community-based groups in the selected locations.

Existing Institutional Arrangement

Nepal does not have a dedicated legislative arrangement related to river navigation but numerous policies and laws have acknowledged the potential of such navigation. Only legally non-binding policies and plans have laid emphasis on developing navigational capabilities. The Constitution of Nepal, promulgated in 2015, has granted the federal government the rights related to developing treaties, legislation and regulations for governing national and international waterways. The Water Resource Strategy 2002, the National Transport Policy 2002 and the National Water Plan 2005 have mentioned developing navigational waterways. Even the National Water Plan includes a time-bound plan. The Water Resource Act 1992, which governs the use of water resources, ranks navigation in the sixth place among the list of priorities for water usage. The Ship Registration Act 1971, provides a legal basis for owning ships and boats for commercial or non-commercial purpose.

Domestic Inland Waterways Development

Rivers like *Koshi* and *Narayani* and their tributaries hardly have any water transport service, even in non-mechanised forms. The existing boat services are limited to ferrying passengers from one side of the river to another on traditional non-mechanised wooden boats. The only exception is the operation of a motorised boat on the *Kali Gandaki* river — one of the seven tributaries of the *Gandaki* river — on a reservoir created by the construction of dam for *Kali Gandaki* A Hydroelectric Project in *Syangja*, is connecting *Mirme* and *Seti Beni*.

Similarly, on the *Koshi* river, from Chatara in Sunsari to Simle on the border of Bhojpur and Dhankuta, jet boats were used till the spring of 2012. Both these services were known for easing the movement of people and commodities to and from relatively remote places. For example, Chatara jet boats have reduced the time of travelling to and from the hills in Dhankuta and Bhojpur from 10 hours to relatively few hours.

The Ministry of Physical Infrastructure and Transport conducted a feasibility study of the 175 km, 150 km and 125 km of the *Koshi*, *Gandaki* and *Bheri* rivers, respectively, in 2012. The study concluded that 12 out of the 14 routes appraised were suitable for operating jet-boat services.

However, the operations are likely to be unfeasible due to high costs arising from the peculiarities of Nepal's rivers. The variation in river depths across the year means that the services are not operable year round. Likewise, the possibility of operating water transport on the *Narayani* river was proposed many times but unfortunately not implemented.

Challenges

The emerging key challenges to domestic inland waterways development are as following:

- Lack of authoritative feasibility studies to assess the navigability of rivers. Few studies done in this regard have not been considered thoroughly. Hence, there is uncertainty regarding the navigability of the rivers.
- The narrative on transportation is dominated by surface transportation, which does not allow exploration of the possibilities offered by alternate modes.
- Numerous technological challenges related to buoyancy and depth for easy navigability exist due to the steep gradient and high velocity of Nepal's rivers.
- Lack of policies and legislation exclusively designed for water transport.
- Chitwan National Park and the Koshi Tappu Wildlife Reserve located on the *Narayani* river and the *Koshi* river, respectively, are a challenge for

developing water transport without affecting the wild life conservation goals.

Transboundary Connectivity through Rivers

The convergence of Nepal's rivers to the *Ganges* provides an opportunity for Nepal to acquire an alternative access to the sea, in theory. The current undeveloped state of rivers in Nepal does provide a space for instituting an inland waterways system with an objective of transboundary connectivity. As water transport is considered as the cheapest and cleanest mode of transport, having a cross-border navigation network – connecting Nepal with India and Bangladesh could translate into lower trade costs for Nepal.

Importing a consignment to landlocked Nepal takes about 39 days while exporting from Nepal takes nearly 40 days, which are almost two times the days required for trading with India, which happens to be home to Nepal's nearest sea port¹. Likewise, Nepal spends 75 per cent of the total cost of transshipment on transit-related costs.² These delays erode the competitiveness of Nepali products. For making access to the sea through inland waterways meaningful, however, the eventual arrangement that governs waterway transit should be negotiated with India in such a manner that it is free of the policy-induced obstacles that currently plague overland transit.

The possibility of transboundary waterway connectivity has received a fillip from India's renewed interest in reviving its waterways as a viable mode of transport. Nepal could take this as an opportunity to get connected to the Indian waterways through its own rivers to achieve an alternative mode of international transport movement.

Among the eight rivers identified by the Inland Water Authority of India for development in Phase I are *Gandak* (NW-37), *Kosi* (NW-58) and *Ghaghra* (NW-40), which are the Himalayan rivers known in Nepal as *Saptagandaki* or *Narayani*,

¹ World Bank. *Doing Business*. 2016. <http://www.doingbusiness.org/data/exploreeconomies/nepal/trading-across-borders/> (accessed 1 25, 2017).

² De, Prabir. 2016. *Disentangling transit costs and time in South Asia*. London: Overseas Development Institute.

Koshi and Karnali, respectively. In addition, India has already initiated the construction of a multi-modal terminal at Haldia, which is one of the three gateway ports for the inbound and outbound cargo of Nepal.

Challenges

The major challenges in achieving cross-border connectivity via waterways and an alternative and a quicker access to sea are as following:

- Lack of feasibility studies to assess the possibility of cross-border river connectivity.
- Absence of legal and policy frameworks on water transport has demotivated dialogues on transboundary navigation with the neighbouring countries.
- Large-scale transboundary navigation requires construction of infrastructure, such as high dams and embankments, which is a politically sensitive issue (the proposed Saptakoshi High Dam being a case in point).
- Issues related to water have been historically controversial, and past water-related treaties with India have left the Nepali public wary about fresh agreements.
- There is a need to sort out issues related to trade infrastructure, such as integrated customs point, and procedural intricacies related to transshipment, liabilities-handling regime in a multi-modal and inter-modal system, and documentary requirements, among others.

Navigation and Livelihood

While at present the number of people directly dependent on water transport for livelihood is low in Nepal, development of waterways in future is likely to transform the lives of the inhabitants of riverine villages. The emergence of a new economic sector in the form of inland navigation will create new economic and employment opportunities, for both skilled and unskilled manpower.

Developing domestic waterways will not only enhance mobility but also create viable tourist destinations. In the *Koshi* river, the jet boat service had contributed to attracting tourists from far and wide, including bordering towns of India.

Similarly, one of the major sources of livelihood for the locals at *Tribeni* on the banks of the *Narayani* river is the income from ferrying passengers on wooden boats from one bank to another. The expansion of any form of water transport — like the short-haul ones will be an advantage to the local people.

The resulting synergy among the boatmen, homestay operators and other local businesses will augur well for the development of the regions around the rivers. Moreover, visitors to the existing wildlife reserves in the vicinity — the Koshi Tappu Wildlife Reserve in the *Koshi* basin and the Chitwan National Park in the *Narayani* river basin — already form a potential customer base. Furthermore, the added benefit of a river safari could encourage the tourists to extend their stay.

Challenges

For ensuring that water transport promotes livelihoods, there is a need to address the following challenges.

- Lack of a cohesive policy regarding the development of navigation for tourism development, as river tourism discourse is dominated by rafting.
- Presence of wildlife reserves on the path of rivers necessitates maintaining a balance between river traffic and a fragile riverine ecosystem.
- Boatmen who are currently engaged in water transport, lack the required expertise to effectively negotiate with national parks to allow them to spread out their services in the part of river controlled by the national parks.

Policy Recommendations

Nepal should develop an integrated water transport system, so that maximum benefits could be realised while causing minimal societal and environmental damages. This would entail, among others, setting up institutional mechanisms, commissioning studies to investigate the viability of rivers for navigation, preparing policies and plans, and strengthening water transport facilities in existence.

Specifically, the government has to take the following initiatives.

- Undertake a comprehensive feasibility study of the rivers to assess their navigability.
 - Identify additional infrastructure, such as connecting roads to facilitate multi-modal transport services.
 - Identify sites for the possibility of upgrading existing traditional boat services, keeping in mind their social and ecological impact.
- Prepare a set of guidelines to monitor and regulate existing water transport services for the safety of passengers.
 - Set up a body or an entity assigned with the task of developing waterways.
 - Frame a comprehensive set of Policies, Acts and Regulations to facilitate navigation in coordination with other water usages.
 - Provide incentives to increase private sector participation (for example, clarify provisions related to taxation and subsidies, if any).
 - Initiate a dialogue with neighbouring countries, especially India in order to establish transboundary inland waterways connectivity for trade facilitation.
 - Adopt an integrated basin navigation management approach.
 - Consult with all domestic stakeholders regarding their aspirations for water resource development, and explore ways to redress the consequences of past controversial water-related treaties.

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