ANALYSIS

Some Grains of Salt

India's 2019 Draft National Policy on Inland Fisheries and Aquaculture is an ambitious effort but limited in depth and vision

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The Draft National Inland Fisheries and Aquaculture Policy (NIFAP) is an important and welcome development on the manifold issues of managing inland fisheries. It was prepared in March 2019 by an expert committee appointed by the Government of India, The need for such a policy stems from two important features of inland fisheries. One, they are a sprawling, heterogeneous, and ambiguous bricolage of diverse ecologies, institutional regimes and cultural practices. As a result, the administration of these systems is inherently complex and perhaps in need of an umbrella policy. Two, due to the boom in freshwater food fish, especially carp, aquaculture in India—economists call this chimera the 'inland fisheries sector'—is big and growing; it warrants efficient, revenue-oriented and sustainable management by the state. Both aims are difficult to achieve, and make the draft NIFAP an ambitious attempt.

The policy remains limited in its depth and vision, however, and can benefit through a more thorough engagement with inland capture fisheries by recognising:

- The ecological declines facing inland capture fisheries and fisher livelihoods;
- The complexities of fishing rights and access conflicts; and
- The political constraints to implementation of fishery policies in capture systems at large.

This article attempts to discuss these three main limitations and identify where we have to take this well-meaning policy on freshwater fishes–with some grains of salt–while engaging with its broad vision.

Inland fisheries in India comprise capture fisheries (mostly in rivers and streams, floodplain wetlands, estuaries, etc.), culture fisheries (intensive pond-based fish aquaculture), and mixed capture-culture systems, in which fish seeding is practised and wild fish are also harvested in, for example, dam storage reservoirs, tanks, ponds and other wetlands. Each of these systems is linked with different ecological conditions and social settings. The dominant contribution of culture and mixed systems to India's total revenue from inland fisheries (over 90 per cent) biases the understanding of the word 'inland' in a way very unfair to river-floodplain capture fisheries. Capture fisheries in natural water bodies may have a negligible revenue share, but are immensely important in sustaining the protein needs and livelihoods of millions of people across India. Further, due to the degraded and altered state of river flows and water quality in most parts of India, capture fishery yields are reducing in both quantity and quality. Hence, assessing the so-called 'potential' of river/wetland fisheries in terms of their area and length is not enough. The ecological and social health of these fisheries needs to be the primary variable of management, not just revenues and stocks.

General neglect

But, unfortunately, it appears that the general neglect of concerns related to capture fisheries has also carried over into the NIFAP, which discusses these aspects only in a cursory manner. The emphasis of the policy framework on intensive aquaculture fisheries and comprehensive state control of inland fisheries is problematic. By privileging state control and focusing mostly on aquaculture systems, the NIFAP downsizes the relevance of reviving community-based fisheries management in riverine and wetland capture fisheries. This has implications

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Fishermen take their boat out to use a multi-mesh drag-net in the Ganga river, India. Capture fisheries in natural water bodies may have a negligible revenue share, but are immensely important in sustaining the nutritional needs and livelihoods of millions of people across India

not only for equity and justice, but also for food security, poverty alleviation, biodiversity conservation, water quality, and alternative–sustainable–water management scenarios.

The NIFAP's classification scheme of 'Inland Fisheries' appears artificial and arbitrary. Capture and culture fisheries have also not been properly distinguished in relation to the geographic categories, despite their divergent characters. This is important because the management practices and governance structures are entirely different in these two modes of fish production. Another example of the arbitrary classification is in 'recreational fisheries', which does not sit together with the other geographical categories like river, reservoir, wetland or cold-water. Recreational fisheries are minor, but exist across rivers, wetlands, reservoirs and even cold-water streams in India. A composite and nuanced scheme of classification would have been excellent, integrating institutional management categories, capture/culture practices and geographical attributes. But the opportunity to frame helpful distinctions of types of inland fisheries systems has been missed.

To date, a reasonable estimate of livelihood dependence of people on inland capture and mixed fisheries remains wanting. With successive inland fisheries interventions at the state and national level being strongly biased towards aquaculture over the last few decades, the neglect of capture fisheries has compounded. An effort to co-ordinate countrywide intensive data collection for the quantification of fishing effort and nature of dependence is much needed in riverine capture fisheries. A comprehensive fishery census and stock-revenue assessment of capture fisheries can provide a strong baseline for further implementation, monitoring and adaptive management guidelines, before the NIFAP recommendations are operationalized.

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Ecological flows are not only important for biodiversity, they are critical for riverine capture fisheries as well. The NIFAP's emphasis on river and wetland ecology is weak although it aligns with the 2012 National Water Policy's recommendation for 'minimum' ecological flows. Strengthening the focus on optimal water allocations for ecological needs and to maximize ecosystem services, which include capture-fisheries yields, needs to be a component of greater significance. The minimal right to water for fisheries is undoubtedly important, but one worries that the minimal right should not merely translate to the dated idea of 'minimum flow' in rivers. The right to water for fisheries can be supported in the true spirit only when ecologically adequate flows are provided, which can mimic natural seasonal variability in river flow.

From the early 1900s, with plans for the commercial development of fish aquaculture, rivers were merely seen as a stock for spawn collection, especially of the Indian Major Carps or IMC species that now dominate all pond-based carp culture. Excessive and unregulated collection of spawn through the 1950s and 1970s directly affected riverine fish stocks of IMCs and other species as well. With this history, restocking of inland water bodies with seed of native fish species is an interesting suggestion in the NIFAP. Yet, it might be difficult to link seed production units with actual success in the restocking of any native species. Restocking success will be predicated upon maintenance of near-natural flow regimes in regulated rivers. Growth and survival bottlenecks of fish larvae/fry are influenced by the timing and duration of river flow across different seasons. To ensure population recruitment and survival towards stock enhancement, such restoration measures will need to depend on major, radical changes to existing paradigms of river water management in India.

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Feedbacks between intensive aquaculture and river flows, especially in semi-arid regions, also deserve careful attention. The NIFAP glosses over the key distinction that, while capture fisheries are non-consumptive water users, aquaculture is often a consumptive water user. With intensive carp culture in regions such as Andhra Pradesh or Rajasthan, large chunks of inland aquaculture in India depend on extraction of groundwater or surface water. The quality of water extracted from these sources might then deteriorate with the continued use of weedicides and pesticides in aquaculture ponds, and even affect the soil health of catchments. Therefore, organic practices and improvement in aquaculture efficiency—akin to irrigation efficiency and crop water use improvement—need to be integrated in aquaculture and mixed fisheries. Such practices can also help protect natural water bodies in the vicinity from pollution and degradation. Another factor contributing to declines of native fish species has been the wanton introduction of exotic fish populations. While the NIFAP recognizes that the entry of exotic species is to be regulated, the policy should recommend bans on any further additions of species or populations of exotic alien fishes to inland fisheries in India.

The NIFAP emphasizes the vesting of leasing and management rights in state departments, and supports the entry of private businesses to develop inland fisheries. This is to be done while retaining the trusteeship and custodial rights of respective local agencies and institutions. Yet such an arrangement may become contested without exact guidelines on implementation. Frictions between local non-state institutions and state departments invested in fisheries are not new. Conflicts between local communities, state agencies, and third parties—private players, contractors, NGOs, etc.—are common over issues of hierarchy, control and benefit sharing.

Big question

As for the NIFAP, are local agencies and institutions to be recognized by the state as trustees, or participants, or as equal partners in fisheries management?

How they interact across hierarchies and scales is a big question, given that local agencies would inevitably be nested underneath government structures. The same question applies to the revival of functional fishery co-operatives, which the NIFAP emphasizes, while retaining all leasing and licensing powers with the state at the same time. The potential of fishery co-operatives in managing fisheries has been limited in many regions due to state or elite interference. So, reviving community-based and local co-operative institutions that work with state agencies, and not under them, is critical. In fact, consolidating state control over riverine or reservoir fisheries might lead to erosion of local institutions that have demonstrated effective fishery management through community-based interventions, for example, tribal groups in Jharkhand and Maharashtra.

Active participation of fisheries governance in management of river systems is also identified as an important area, but what organization models might work in rivers is not addressed. The political dimensions (especially with regard to caste and access) also impinge on making state control effective beyond a point. As river fishers generally receive little consideration in matters of inland fisheries, it seems unlikely that their inclusion in river management strategies will be easy or even acceptable across many quarters, including state agencies themselves. Acknowledging these systemic conflicts and seeking ways towards their resolution or management is an aspect missing from the NIFAP, which, while not ignorant about them, appears to wish away these problems.

The NIFAP's emphasis on the state becoming almost the sole controller and regulator of fisheries affairs may work well for intensive, organized and high-revenue aquaculture systems. But its application to river-floodplain capture fisheries is questionable, for various reasons. In Bihar, for instance, all river fisheries on flowing waters are open-access and state involvement in managing river fisheries is almost non-existent because there is no revenue to be extracted. The hands-off approach of the state fisheries department for riverine fisheries has led to near-total control of access to fishing grounds by mafia-style gangs and other 'anti-social' elements that regularly exploit local fishers through violence and threats. These are ground realities along many rivers of north India where gangs or bands maintained by strongmen or fishery contractors work as a 'shadow state' ruling the fisheries. Criminal control of fisheries has serious implications for fishing rights as well as human rights, but these have not been acknowledged in the NIFAP. A steady trend of exit has also been noted from such areas. Fishers forced to continue fishing in these regimes have limited choices, and often involve compromises with the gangs in order to maintain access to fishing grounds. In such situations, it appears impossible that state agencies will even consider—let alone be proactive—about assuming control of risky, scattered and low-revenue yielding capture fisheries.

Even if state interest in managing capture fisheries may be low, state agencies cannot avoid engaging with fishers' development and well-being issues. State-led incentives to better organization and development of capture fisheries are very important. To improve and sustain revenues obtainable from capture fisheries, state funding channels and investments towards improving market access and fish price regulations are much needed. In the absence of financial incentives and support structures, local fishery institutions may find it difficult to manage their fisheries. At present, the primary way to revive state interest in capture fisheries is, it appears, to make it more revenue yielding and commercially viable.

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However, this would need radical changes in river water management. Given these complications, there is also room to change the approach towards capture fisheries, by focusing

on their food security, livelihood and conservation dimensions rather than profitability. Open-access regimes, despite being riddled with pernicious conflicts over fishing rights and access, continue to provide a safety net to the most marginalized fisherfolk. For the poorest of the poor, the space offered by free entry and exit helps ensure some continuity in basic incomes and independent decision making by fishers. State control and regulations in such contexts may end up excluding from fishing the most vulnerable groups such as the landless, economically backward, or Dalit fishers.

That said, the NIFAP's point about updating fishing regulations is of utmost importance. Currently, the focus of regulations is on fishing practices—limits to mesh sizes, bans on destructive methods, for example. But there is a need for more nuanced regulations on spatio-temporal fishing behaviour, catchability and effort applied for gears used in fishing. A systematic revision of existing ad hoc regulations and management guidelines might thus be an important step towards implementing fishery regulations to foster sustainable fisheries. Fisher mobility allows for some buffering capacity against external social and environmental shocks. But mobility is also a hurdle to organizational management of fisheries and a reason for inter-sectorial/institutional conflicts. Thankfully, inter-sectoral co-ordination receives adequate attention in the NIFAP. Reservoir fisheries above dams or barrages, for instance, often overlap with the boundaries of protected areas managed by the state environment/forest departments. In such settings, forest and fisheries departments need to work together to plan fisheries development as well as minimize impacts of fishing on wildlife and vice versa. Access to fishing is also affected by conservation and protection laws and entry restrictions in protected areas. There seems no way other than inter-departmental co-ordination to manage such boundary conflicts. Conflict management is thus central (albeit neglected in the NIFAP to the objective of balancing livelihood needs and developing fisheries production alongside ecological conservation priorities. NIFAP neglects this aspect.

Given the complex nature of inland capture fisheries, NIFAP's vision of 'pluralistic and participatory systems' is the ultimate challenge and deserves continued engagement. This calls for expanding the scope of inland fisheries research and management in India to socio-political and cultural dimensions. This requires going beyond the biological heuristics of fish stock assessments, the technical calculations of intensive fish culture, and the economic forecasts of fishing revenues and 'potential', which have so far dominated the discourse on inland fisheries.

Beyond regulations

In summary, the NIFAP offers hope, but also lets loose several uneasy questions. As a set of guidelines, it appears distanced and sanitized from ground realities in capture fisheries that are murky, difficult and even unsettling. It is hoped that it can see beyond regulations and revenues, and grapple more with contestations that are like the clockwork of India's inland capture fisheries.

For more

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