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**Assessing Market Linkages: Are Nepalese Aquaculture Farmers Being Rewarded?**

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Previous studies have not adequately assessed the rewards that fish growers receive by utilizing backward and forward-linked markets. This article aims to fill that gap by examining the value or rewards generated by aquaculture farms through upstream (backward) and downstream (forward) markets linkages. These rewards were measured in terms of net margin, productivity, price, growth rate, income, and profitability. Primary data were collected from 45 input suppliers, 75 growers and 65 fish traders across Bara, Rupandehi, Nawalparasi, Nuwakot, and Kathmandu valley. Additionally, focus group discussions and key informant interviews were conducted with relevant stakeholders.

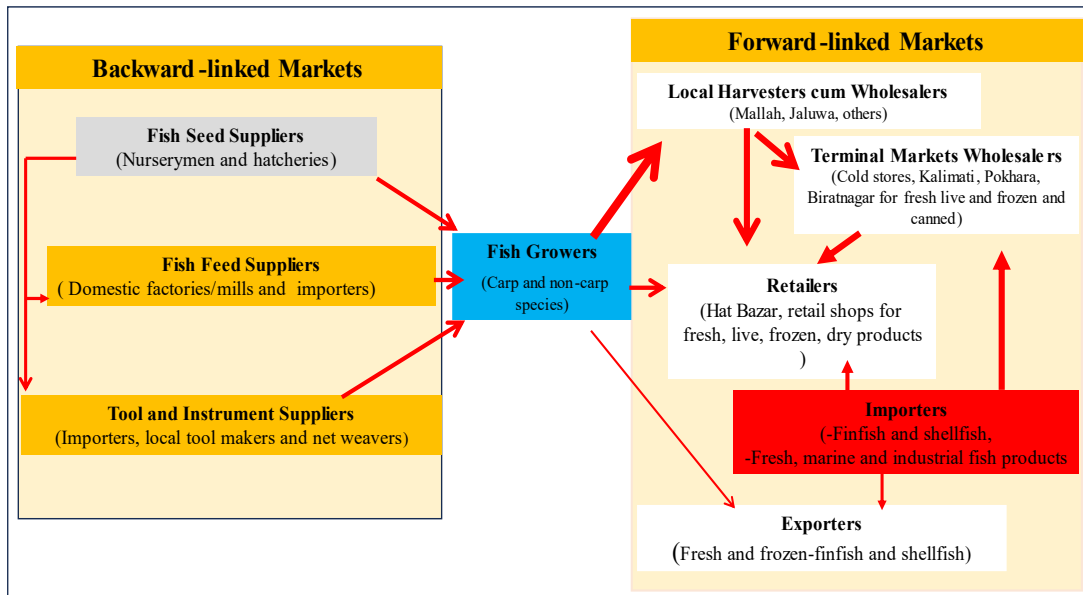


Figure: Backward and forward-linked markets for cultured fishery in study area

Farmers primarily relied on fish seed suppliers, feed manufacturers, and machinery traders as their backward-linked markets (Figure). Fish hatcheries and nurseries, acting as seed suppliers, predominantly followed direct marketing to growers. Seven out of ten farms purchased a diverse range of inputs through local dealers, while the rest, mostly small-scale farms, used locally available options. In forward-linked markets, local wholesalers were key intermediaries setting fish-type specific sale prices, typically sold fish in distant wholesale terminal markets by retaining average of 16% marketing margin. Net benefits of carp, pangas, Nile tilapia and rainbow trout keeping growers were NPR 107, 75, 158 and 317 per kilogram, respectively. These benefits at aquaculture farms were 44% lower than those received by retailers. Farmers faced significant price competition during flush season (October-March) from domestic production and imported products. Despite increased live fish trade, gross margins remained unattractive for growers. Farmers perceived a 17% annual cost rise for these inputs, which led to an increase in production costs, but marginal benefits remain unchanged significantly throughout 2022-2024. Overall, both backward and forward-linked markets provided modest rewards to growers. To address these challenges, policy interventions were suggested to strengthen both backward and forward linked-markets of the farmers, incentivize growers, regulate informal trade, and revise import tariffs to secure long-term rewards.