

CORRESPONDENCE

flavirostris) listed as Vulnerable in the IUCN Red list have also been recorded in the Park⁷. There are 48 species of fish, including climbing perch (*Anabas testudineus*), striped snakehead (*Channa striata*), freshwater eel (*Monopterus albus*), *Catla catla*, etc.⁸.

The sangai has an attractive movement as it prances around in the floating meadow, and hence is called the 'dancing deer' (Figure 1 d). This species has become part of the culture of the people of Manipur. Songs and poems have been penned for years in praise of its beauty. The sangai and its habitat are mentioned frequently in local mythology and folklore. The epic love story of the seven 'Khamba Thoibi' incarnations is linked to the Loktak Lake and Keibul Lamjao⁹. The locals still revere numerous sacred sites related to the Khamba and Thoibi epics. Sangai, on the other hand, is linked to many tales¹⁰. The prominence of Sangai in the historical culture of the people of Manipur shows how intertwined their lives are with the ecosystem. The Sangai Festival is inspired by the sangai deer and is celebrated every year from 21 to 30 November. The aim of this Festival is to promote Manipur as a top tourism destination. It exhibits the traditional and

cultural diversity of various tribes, and also showcases their fascinating arts and culture, handicrafts, handloom, cuisine, indigenous sports and other unique experiences¹¹ (Figure 1 e–g). KLNP, the only floating national park in the world, and is an ecological and cultural heritage of Manipur and India.

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ACKNOWLEDGEMENTS. We thank the Department of Science and Technology (DST), Government of India for financial support in the form of INSPIRE fellowship to the first author (K.B.M.) (grant no. IF190374), and the Forest Department, Government of Manipur for permission to work in KLNP and providing useful information about the Park.

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Indian intervention to boost makhana in the domestic market and overseas

Makhana (*Euryale ferox* Salisb.), also known as Gorgon nut or fox nut, is one of the cash crops of family Nymphaeaceae which is cultivated in tropical and subtropical regions of wetland ecosystem¹. The starchy white puffs derived from the seeds of makhana are nutritious and sold as a premium dry fruit commodity (Figure 1). Makhana is low in calorific value and rich in fibre and carbohydrates, making it a healthy snack. Fifty grams of makhana generates about 180 calories energy after cellular combustion. On the other hand, makhana contains lower amounts of cholesterol, sodium and saturated fats, which are generally not considered good for human health.

India is considered as the production hub of makhana, with various initiatives and innovative schemes introduced by the Government to boost makhana manufacturing by improving the entire supply chain right

from the farmer to the final consumer through proper channel. The need to boost makhana production and to meet both domestic and global demand for this nutritional non-cereal food has led to a series of Government initiatives such as the introduction of technological interventions, reduction of intermediaries in the supply chain, formation of a highly organized sector, creation of an efficient marketing structure and improvement of socio-economic status of makhana growers.

The Government of India has taken various initiatives to boost makhana production. These include empowering farmers, leveraging additional manpower and refurbishing agricultural infrastructure of the Makhana Research Centre in Darbhanga, Bihar, India. The Government is also aiding other states like Jammu and Kashmir, Rajasthan, etc. Moreover, with Bihar being the main pro-

ducer of makhana, the State Government has taken a number of initiatives in the past decades in the interest of makhana growers.

Stamp duty and registration fees waiver in lease/sale/transfer of land for setting up units, tax rebates and reimbursement of the deposited amount for those setting up makhana farming and other infrastructure, reimbursement on the capital investment on plant and machinery for captive power and state-level and district committees set up for approval of applications within stipulated timelines are some of the initiatives. The Government has also facilitated a single-window clearance system to boost makhana production. The development of makhana seed variety 'Suvama vaidehi' by the Indian Council of Agricultural Research, New Delhi has revolutionized the farming system of makhana^{2,3}. There has been a concerted and cumulative effort to streamline



Figure 1. Makhana puffs.

makhana manufacturing by improving the entire supply chain right from the farmer to the final consumer. The demand for makhana in other countries has been surging owing to its expanding potential. It has surpassed the need of the domestic market in the last decade and there has been consistent demand in countries like USA, UK, European Union (EU), Australia, New Zealand, etc.⁴. In 2018, Europe had emerged as the next most prominent regional market. North America is predicted to exhibit

a compound annual growth rate of 11.5% from 2019 to 2025, making it a rapid growing regional segment⁵. The untapped potential of UK and USA is expected to be a promising investment opportunity to give their regional markets a major boost. Belgium, one of the six founder countries of the EU, has a good market for makhana because of its advanced culinary system. It has also evinced interest in the trading of makhana product of Bihar. The Indian Government has also made cognizant headway

in the global promotion of makhana through various Indian embassies. Eventually, the measures taken by the Government to intensify research in this wetland crop, its production, value addition, marketing, industrialization, entrepreneurship and export can act as a springboard. Significant efforts have been made to capitalize the potential of makhana. Nevertheless, consistent refinement, restructuring of existing and addition of novel schemes by the Government according to the flexibility of both domestic and overseas market pattern of makhana are necessary.

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