

## Livelihood overview of the Indian Sundarbans (West Bengal)

### 1) What we mean by “Total Sundarban” in West Bengal

Administratively, the Indian Sundarbans in West Bengal are commonly described as **19 community development (C.D.) blocks** spread across **South 24 Parganas (13 blocks)** and **North 24 Parganas (6 blocks)**.

This geography is not “one economy.” It’s a braided one: **rice fields behind embankments, brackish-water ponds and bheries, rivers/creeks for capture fishing, mangrove forests (with strict access controls)**, plus **peri-urban labour markets** and **migration circuits** — all interacting with shocks like cyclones, embankment failures, salinity intrusion, and wildlife conflict.

### 2) The big livelihood baskets (what people actually live on)

Across the Sundarban blocks, livelihoods cluster into a few dominant baskets:

1. **Rainfed rice-based farming** (mainly *Aman* paddy; limited *Boro* where freshwater is available; vegetables in safer, less saline pockets).
2. **Fisheries & aquaculture**
  - **Freshwater ponds/tanks** (carps etc.)
  - **Brackish-water shrimp/fish culture** (including “modified extensive” models promoted by government)
  - **Traditional bheri/ghery systems** (especially in North 24 Parganas’ lower delta)
3. **Capture fishing (rivers/estuary)** and **crab collection/fattening** (high-value but risky and seasonal).
4. **Forest-linked livelihoods** (regulated honey collection, NTFPs; often overlaps with risk exposure and permit regimes). Reported honey collection figures vary by year; one recent reported season figure is about **15 tonnes**.
5. **Livestock & poultry/duck rearing** (a key “buffer” asset in saline, shock-prone villages).
6. **Tourism-linked work** (guides, boat crews, homestays, small trade) concentrated around gateway nodes; and forest/tiger-reserve tourism circuits.
7. **Wage labour + migration** (construction, services, brick kilns, informal urban work — especially in North 24 Parganas where urbanisation is high). One NABARD planning document notes North 24 Parganas has a large urban/semi-urban livelihood base (about **52% urban/semi-urban**), shaping labour options and mobility.

At the **state** level (context for turnover), West Bengal’s inland fisheries production is reported around **20.45 lakh MT (2022–23)** and fishery exports **~1.17 lakh MT valued at over ₹5,000 crore**. Sundarban brackish-water belts are a major contributor to that “cash engine,” even though block-level turnover is rarely published in one clean table.

### 3) South 24 Parganas Sundarbans (13 blocks): livelihood + quantified production/water assets

A government planning document for South 24 Parganas explicitly notes that **13 development blocks** in the district fall in the Sundarbans, and that **salinity and weak freshwater irrigation** drive mono-cropping in many coastal areas.

Below are **block-wise quantified snapshots** for (A) *Aman* rice and (B) fisheries water areas, using the district's Comprehensive District Agriculture Plan (CDAP).

**How to read the crop table:** The CDAP block table gives *Area, Production, Yield* for rice seasons. The yield is in **kg/ha**; area and production are presented in a scaled format typical of district planning tables. The most reliable way to interpret is: **Area × Production align with the stated yield**, so you can treat these as comparable block-wise indicators even if the table's scaling note isn't printed on the same line.

#### A) Block-wise *Aman* paddy (South 24 Parganas Sundarbans blocks)

**Jaynagar–I:** Aman area **93.4**, production **176.6**, yield **1892 kg/ha**

**Jaynagar–II:** Aman area **144.4**, production **212.8**, yield **1473 kg/ha**

**Kultali:** Aman area **188.7**, production **358.5**, yield **1900 kg/ha**

**Canning–I:** Aman area **162.6**, production **314.3**, yield **1933 kg/ha**

**Canning–II:** Aman area **168.2**, production **403.5**, yield **2400 kg/ha**

**Basanti:** Aman area **243.4**, production **518.2**, yield **2129 kg/ha**

**Gosaba:** Aman area **191.5**, production **602.9**, yield **3148 kg/ha**

**Mathurapur–I:** Aman area **118.0**, production **179.6**, yield **1523 kg/ha**

**Mathurapur–II:** Aman area **96.7**, production **230.2**, yield **2382 kg/ha**

**Kakdwip:** Aman area **174.4**, production **334.8**, yield **1920 kg/ha**

**Namkhana:** Aman area **149.7**, production **74.5**, yield **2502 kg/ha**

**Sagar:** Aman area **172.7**, production **404.6**, yield **2343 kg/ha**

**Patharpratima:** Aman area **296.2**, production **807.8**, yield **2727 kg/ha**

#### What this says (livelihood meaning):

- *Aman* is the backbone almost everywhere (monsoon rice behind embankments).
- Big-area blocks like **Patharpratima, Basanti, Gosaba** are rice-heavy, but yields vary — often reflecting salinity, drainage, seed choices, and storm damage patterns.

#### B) Fisheries water assets (block-wise freshwater vs brackish water areas)

The same CDAP gives **block-wise freshwater and brackish water areas (ha)** — a very direct livelihood infrastructure indicator.

**Jaynagar–II:** freshwater **1500**, brackish **500**

**Kultali:** freshwater **2816**, brackish **927**

**Basanti:** freshwater **2000**, brackish **350**

**Canning–I:** freshwater **3920**, brackish **2820**

**Canning–II:** freshwater **3650**, brackish **3500**

**Gosaba:** freshwater **3000**, brackish **637**

**Mathurapur–I:** freshwater **651**, brackish **250**

**Mathurapur–II:** freshwater **1595**, brackish **1095**

**Kakdwip:** freshwater **1998**, brackish **1115**

**Namkhana:** freshwater **2060**, brackish **1225**

**Patharpratima:** freshwater **3200**, brackish **2400**

**Sagar:** freshwater **2800**, brackish **800**

#### **Livelihood interpretation:**

- Blocks with **very large brackish areas** (e.g., **Canning–I/II, Patharpratima, Kakdwip, Namkhana**) have an obvious structural tilt toward **shrimp/fish culture** alongside rice.
- Where **freshwater dominates**, pond aquaculture + agriculture often blend into a “two-legged” livelihood: rice + fish (with poultry/ducks as the third leg).

#### **C) Aquaculture productivity and the “cash crop” logic**

The Department of Fisheries describes a shrimp-farming scheme across the coastal districts (including South & North 24 Parganas) aiming at **Black Tiger Shrimp** with targeted productivity around **2000–2500 kg/ha/crop** under improved management.

This productivity benchmark matters because it explains why households (and local investors) push brackish aquaculture even when it increases exposure to disease risk, market volatility, and ecological trade-offs.

#### **4) North 24 Parganas Sundarbans (6 blocks): livelihood profile with quantified brackish-water signals**

##### **A) Why North 24’s Sundarbans feel different**

North 24 Parganas includes dense rural tracts **and** huge urban-industrial belts. NABARD planning material highlights how strongly **urban/semi-urban livelihoods shape the district** overall.

But in the **delta-facing blocks**, the livelihood grammar shifts back to: **bheri fisheries, brackish aquaculture, river fishing, agriculture (rice/jute in less saline pockets), and migration.**

##### **B) Brackish-water footprint: Sandeshkhali signal (quantified)**

One detailed local study (focused on Sandeshkhali-I) reports:

- **North 24 Parganas brackish-water area ~33,949 hectares (2017–2018)** and
- **Sandeshkhali–I** alone holding about **16.32%** of the district’s brackish-water area.

This is a strong quantitative cue that in North 24’s Sundarban edge, **water-based production isn’t secondary** — it is the *core*.

##### **C) The “bheri economy” as a livelihood system**

Remote sensing and local stakeholder studies describe how brackish-water fisheries (bheries/gheries) expanded and became central to the lower-delta economy, though with social conflicts and management challenges.

**Livelihood implication:** bheri owners, leaseholders, wage workers, fry collectors, transporters, ice suppliers, and market intermediaries form a chain — so “fisheries” here is not only production; it’s also **employment architecture**.

## 5) Blockwise livelihood “specialisation map” (practical reading for fieldwork & planning)

Below is a **field-usable** block-wise map of dominant earning sources. Where government provides hard quantities (rice + water areas), I’ve anchored the narrative to those; where not, I’m careful to label patterns as “dominant” rather than pretending a fake precision.

### South 24 Parganas (Sundarban blocks)

- **Jaynagar I & II:** rice + freshwater ponds; peri-urban market pull; seasonal labour spillover. *Aman* output is substantial (e.g., Jaynagar–I production **176.6** with yield **1892 kg/ha**).
- **Kultali:** rice + freshwater aquaculture (freshwater **2816 ha**) with brackish pockets (**927 ha**).
- **Canning I & II:** a classic “gateway economy”—large freshwater + very large brackish areas (Canning–II brackish **3500 ha**) and major fish market linkages (Canning as a fish transaction hub is explicitly noted in the district plan).
- **Basanti:** rice-heavy (*Aman* production **518.2**, yield **2129**) plus brackish water (**350 ha**)—often a mixed farming/fishing household portfolio.
- **Gosaba:** strong rice signal with high yield in the CDAP table (*Aman* yield **3148 kg/ha**) and meaningful brackish area (**637 ha**), plus tourism/forest-adjacent service work in some pockets.
- **Mathurapur I & II:** smaller water footprints in parts; agriculture + pond fish + migration mix; brackish stronger in Mathurapur–II (**1095 ha**) than I (**250 ha**).
- **Kakdwip / Namkhana / Sagar / Patharpratima:** the “coastal production belt”—large *Aman* bases (e.g., Patharpratima production **807.8**, yield **2727**) and significant brackish areas (Patharpratima brackish **2400 ha**; Namkhana **1225 ha**; Kakdwip **1115 ha**; Sagar **800 ha**).  
These blocks typically show the strongest combination of: **agriculture + brackish aquaculture + marine/estuarine fishing + seasonal migration**, plus some tourism-linked work.

### North 24 Parganas (Sundarban blocks)

- **Hingalganj / Hasnabad:** borderland-riverine livelihood mix; capture fishing, agriculture, migration; flood/cyclone risk shapes seasonality.
- **Sandeshkhali I & II:** brackish-water aquaculture/bheri systems dominate—quantified by Sandeshkhali–I’s reported brackish concentration (16.32% of district brackish area).
- **Minakhan (and nearby delta-facing blocks):** agriculture + fisheries + wage labour; high connectivity to markets often decides whether households stay “farm-first” or pivot to fisheries and migration.
- **Haroa:** often counted in the wider Sundarban administrative planning frame; livelihood mix leans more “rural-agri + ponds + commuting labour,” depending on the specific Gram Panchayat belt.

## 6) “Quantified values”

- **Aman rice area/production/yield** (South 24 Parganas blocks)
- **Freshwater and brackish-water area (ha)** (South 24 Parganas blocks)

These are powerful because they’re not just “descriptions”—they are *infrastructure + production indicators* that explain household income strategies.

**What is usually quantified at district/state scale (good for turnover framing)**

- State fish production and export value (turnover proxy): **~20.45 lakh MT (2022–23)**; exports **~₹5,000+ crore**
- Brackish-water resource base (coastal WB): about **91,000 ha** backwaters with **~60,000 ha** under culture (as described by the Fisheries Department).
- Productivity targets for improved shrimp farming: **2000–2500 kg/ha/crop**

## 7) The Sundarban livelihood engine as a “risk economy”

**Sundarban livelihoods are not “poor because remote.” They are “expensive to maintain”**

**because every earning stream is taxed by risk** — salinity, storms, embankments, wildlife, disease outbreaks in shrimp ponds, price shocks, and permit regimes.

- **Rice** gives food security and social legitimacy, but salinity and water constraints lock many households into *Aman* mono-cropping (the district plan explicitly flags salinity and mono-cropping).
- **Brackish aquaculture** brings cash, but pulls households into credit, input dependence, and market volatility—hence the push for “scientific” culture and higher productivity in government schemes.
- **Bheries** (North 24) show how ecology and economy merge into a landscape of ponds, embankments, canals, and labour relations—productive, but socially contested.
- **Forest-linked work** (honey, NTFPs) is simultaneously livelihood and risk exposure; reported honey collections (e.g., 15 tonnes in one recent report) hint at scale but also at the tight administrative control over access.
- **Migration** is the invisible subsidy: it keeps households afloat when local production collapses after storms, disease, or crop loss—especially in the more connected North 24 context.

## References (key sources used)

- Sundarban Affairs Department, Govt. of West Bengal — list of Sundarban blocks (19 blocks).
- Comprehensive District Agriculture Plan (CDAP), South 24 Parganas (RKVY framework) — block-wise *Aman/Boro* and fisheries water area tables.
- Department of Fisheries, Govt. of West Bengal — brackish-water resources and shrimp-farming scheme productivity targets; coastal brackish area under culture.
- West Bengal Inland Fisheries Policy / official policy document — state production and export value.
- Local study on Sandeshkhali-I brackish-water area concentration (North 24 Parganas).
- Studies describing bheri/ghery systems in North 24 Parganas.
- Reported honey collection figure (journalistic report; use as “reported” not absolute).
- NABARD PLP note on North 24 Parganas urban/semi-urban share shaping livelihood structure.