Understanding India's Paddy Ecosystem

A Karnataka Focus



SELCO Foundation

Why Rice Matters

Over half the world relies on rice as a staple. Per capita consumption is falling as incomes rise and diets diversify, but total consumption still rises with population.



75%

Share of the world's rice from intensive irrigated systems (year not stated in source)

563.4 Mt

World rice production, 2025-26, a record (milled basis), up 2% on the year (FAO, May 2026)

555.1 Mt

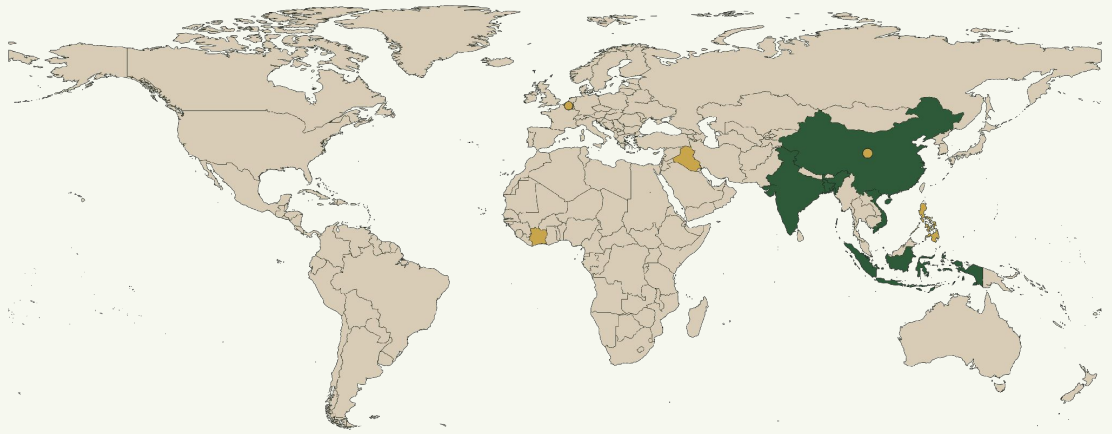
World rice consumption, 2025-26, up 2.6% on the year (FAO, May 2026)

USD 20+ billion

Global rice exports, 2022

17.3%

Share of global calories, about 516 kilocalories a person a day, 2022



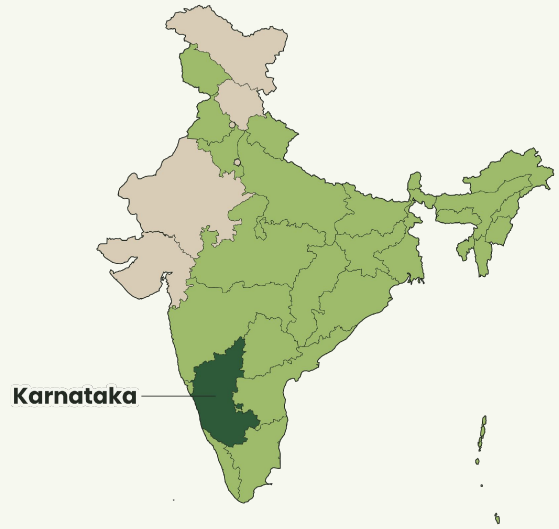
Top five in each category

Producers (2023, Mt)	Consumers	Exporters	Importers
1. India 206.73	1. China	1. India	1. China
2. China 206.6	2. India	2. Thailand	2. Belgium
3. Bangladesh 58.61	3. Indonesia	3. Vietnam	3. Philippines
4. Indonesia 53.98	4. Bangladesh	4. Pakistan	4. Iraq
5. Vietnam 43.5	5. Philippines	5. Belgium	5. Ivory Coast

India Leads the World in Rice

India is the world's largest rice producer and exporter, and over 65% of its population consumes rice as a staple.

Where rice is a top-five crop



Karnataka: rice is one of five main crops, with ragi, sugarcane, maize and tur

Rice is a top-five crop in 29 of 36 states and UTs

17.8 Mt

Rice exports, 2024, marginally down from 17.86 Mt on earlier curbs

5.7 Mt

Record basmati exports, 2024

118 Mt

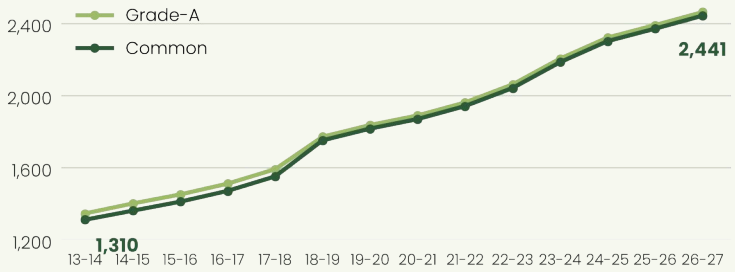
Domestic consumption, 2023-24, second only to China; stocks and reserves back food security

Exports 2024 by type

Basmati	Non-basmati	Restrictions	Key importers
Up 16.3% (Saudi Arabia, Iraq and the United Arab Emirates, UAE).	Down 6.9% to 12.1 Mt on high prices.	Most restrictions were lifted in Sept-Oct 2024, including the non-basmati white rice ban.	The UAE, Iraq, Nepal and Bangladesh.

MSP for paddy, INR per quintal

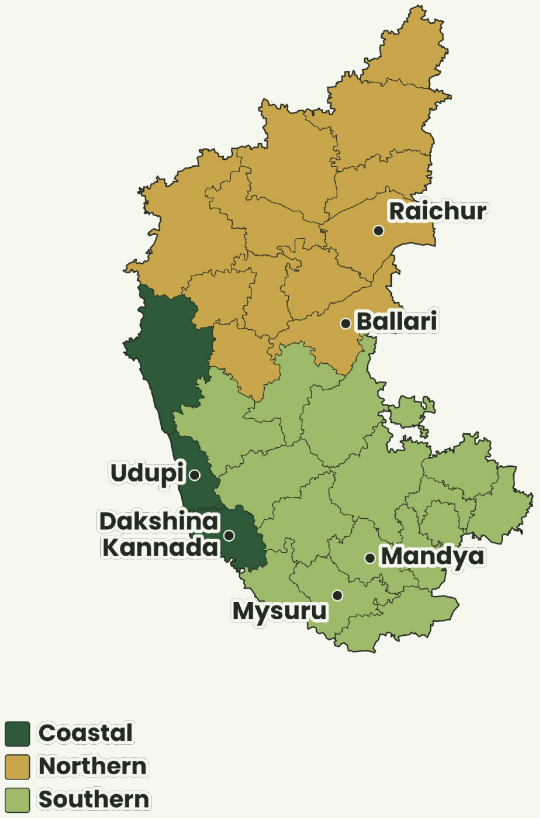
Up every year since 2013-14: 1,310 to 2,441 (2026-27).



Drivers of growth

- High-yielding varieties and better farming practices
- Above-normal monsoon
- Minimum Support Price (MSP) and investment in irrigation
- Rising demand from Bangladesh, China and Nepal

Karnataka at a Glance



Karnataka grows rice in 30 districts, and each region farms it differently. 14 districts are in the high-productivity group, with yields above 2,500 kg per hectare. Varieties range from traditional types such as Rajamudi to modern high-yielding ones.

Regions and Soils

Coastal districts such as Udupi and Dakshina Kannada	High rainfall supports wet rice in the Kharif season. Lateritic soil predominated with nutrient management needed.
Northern districts such as Raichur and Ballari	Canal and borewell irrigation. Back cotton soil predominates, and its good moisture retention suits rice.
Southern districts such as Mandya and Mysuru	Rainfed and irrigated; traditional varieties grown. Well drained red loamy soil; supports rice with appropriate water management.

Climate and Irrigation

- Rainfall ranges from 600 mm in the northern dry zones to over 4,500 mm on the coast.
- A wide temperature range shapes the choice of varieties and practices.
- Semi-arid to sub-humid overall; rice farming is irrigation-dependent.
- About 44% of the rice area is irrigated, and the rest is monsoon-fed.
- Micro-irrigation and rainwater harvesting are promoted.

Challenges

Water scarcity	Inconsistent rainfall and over-reliance on groundwater in certain regions lead to water stress.
Soil degradation	Continuous rice without adequate management harms soil health.

Karnataka at a Glance

After a strong 2025-26, reports from 2026 show kharif sowing sharply down amid a 35% June-September rain deficit.

11.47 lakh ha

Rice area, 2025-26

37.50 lakh tonnes

Rice production, 2025-26: 13th among states, about 2.4% of India's output

3,270 kg/ha

Yield, 2025-26: above the national average of 2,915 kg/ha

Season by season, 2025-26 (Third Advance Estimates, rice, milled equivalent)

Kharif

Monsoon-fed; the dominant season. Area 8.95 lakh ha; rice 29.54 lakh tonnes; yield 3,301 kg/ha.

Rabi

Assured irrigation; the second crop cycle. Area 0.23 lakh ha; rice 0.63 lakh tonnes; yield 2,737 kg/ha.

Summer

A significant irrigated crop. Area 2.29 lakh ha; rice 7.33 lakh tonnes; yield 3,201 kg/ha.

Trend and outlook

2018-19

Area reached 11.99 lakh ha

2023-24

About 9.7 lakh ha gave 31.3 lakh tonnes of rice (about 46.9 lakh tonnes of paddy), 14th among states.

2024-25

Paddy output was fell to 42.1 lakh tonnes.

2025-26

37.5 lakh tonnes output with 11.47 lakh ha sown

2026-27 outlook

By 10 October, about 6.2 lakh ha was sown, against a 10 lakh ha target and 10.43 lakh ha last kharif. One Indian Council of Agricultural Research (ICAR) scientist estimates over 50% crop loss in Karnataka's paddy districts.

Paddy and Climate: Risks and Costs

Rice is India's most water-intensive crop and adds to greenhouse gas emissions.

Temperature



+0.7°C average temperature, 1901-2018

Each 1°C rise may cut yields by 3-10%. Heat at flowering and grain-filling lowers grain number and quality; heat waves cause spikelet sterility (no viable grain). Cold stress delays growth in northern and high-altitude areas.

Dry spells and drought



27% more dry spells, 1981-2011 against 1951-1980

Dry spells at tillering and grain-filling are a major constraint in rainfed and upland rice.

Erratic and extreme rainfall



+75% extreme rainfall events, with an 8-12% fall in agricultural productivity

Erratic monsoons bring drought or flood at critical growth stages. Unseasonal rain at harvest lowers grain quality and raises shattering and fungal disease.

Floods and submergence



Flash floods and prolonged submergence affect low-lying and floodplain areas.

Sea-level rise and salinity

Arable land is shrinking in deltas and estuaries.

Pests and diseases



Brown planthopper and rice blast gain a wider range and longer lifecycles.

Climate and resource costs of rice

23%

of India's agricultural methane emissions, mainly from flooded fields and anaerobic decomposition

3,000-5,000 litres

of water per kg of rice

Inputs

Synthetic fertiliser and diesel for pumps and tractors raise carbon dioxide (CO_2) and nitrous oxide (N_2O) emissions

Soil

Continuous mono-cropping and flood irrigation cause acidification, nutrient loss and micronutrient deficiencies

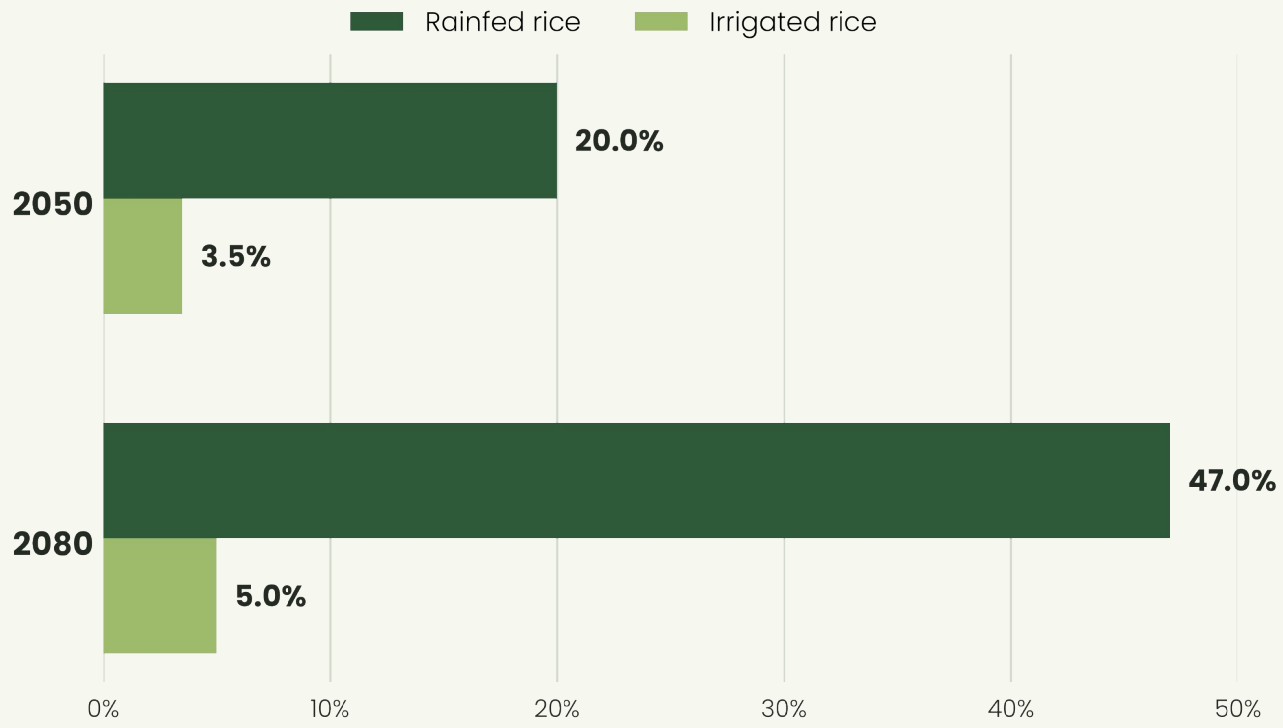
Livelihoods

Smallholders and tenant farmers, the majority in rice belts, have limited means to adapt and weak market access

Rainfed Rice Faces the Highest Risk

By 2080, rainfed rice could lose 47% of its yield, against 5% for irrigated rice by 2080.

Projected yield loss (%)





Adaptation responses to climate risks

Technology and forecasting: early warning, weather forecasts and decision-support tools help farmers prepare for weather risks.

Diversification and crop rotation: adding other crops and rotating rice with legumes or vegetables reduces risk and stabilises farm income.

Cropping practices: climate-resilient varieties, water management (Systematic Rice Intensification(SRI), Alternate Wetting and Drying (AWD)), adjusted planting dates, Integrated Pest Management (IPM), soil and nutrient management.

Three Kinds of Paddy Farmers

Paddy farmers fall into three groups

	 Sustenance farmers	 Smallholder farmers	 Tenant farmers
Land holding (ha)	Under 0.5.	0.5-2.	Often landless; leases land temporarily.
Objective	Subsistence and self-consumption.	Subsistence and market sale.	Commercial farming under lease.
Monthly income in INR (from the crop)	5,000-7,000 (2,000-3,000).	10,000-15,000 (4,000-6,000).	4,000-10,000, unstable (1,500-4,000 after rent).
Assets and technology	Basic hand tools; traditional, manual methods.	Pump sets, sprayers, bullocks or a small tractor; hires a power tiller or tractor.	Few assets; rents or borrows machinery.
Irrigation, fertiliser	Rainfed or shallow tube wells; minimal, often organic, fertiliser.	Borewells and surface irrigation; moderate, subsidy-based fertiliser.	Rented pumps or communal sources; limited, cost-cautious fertiliser.
Risk level	High: climate, price and health shocks.	Moderate; better resilience.	Very high: crop failure means a loss plus rent liability.
Market linkage	Weak: local sale or self-use.	Moderate: mandis, FPOs, middlemen.	Weak: farm-gate sales or traders.
Scheme access, information and communication technology (ICT)	Limited awareness; documentation problems; very low ICT use.	Moderate, via the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN), subsidies and MSP; WhatsApp and YouTube use emerging.	Often excluded for lack of land documents; low ICT use.
Karnataka Regional Presence	Northern Karnataka	Southern Karnataka	Mandya belt

What It Costs: Paddy Cultivation

Stage	Item (INR per acre)	India average	Karnataka
Input	Seeds	1,200-2,000	1,200-1,600
Pre-Production	Soil testing	500-1,000	500-900
	Land preparation (labour + machinery)	2,000-4,000	2,500-4,000
Crop Production	Transplanting (manual)	2,500-4,000	2,800-4,000
	Irrigation (diesel pump)	1,200-3,000	1,200-2,800
	Fertilisers and pesticides	3,000-5,000	3,000-4,800
Harvesting	Manual harvesting	2,500-3,500	2,600-3,500
	Combine harvester (rental)	1,800-2,500	2,000-2,500
Post-Harvest (per quintal)	Threshing + drying + milling	400-850	450-850



INR 3,000–5,000

per acre for fertilisers and pesticides (India average), the largest cost header.

The Paddy Value Chain

Paddy goes through nine stages, from seed to market.



STAGE 1

Input supply

Seed selection, cleaning and treatment



STAGE 2

On-farm preparation

Tillage, puddling, levelling and bunding



STAGE 3

Sowing and planting

Broadcasting, line sowing, transplanting, direct seeding



STAGE 4

Water management

Canals, pumps, AWD, drip and sprinklers



STAGE 5

Weed management

Manual, mechanical and herbicide control



STAGE 6

Nutrient and pest management

Fertiliser application and pest control



STAGE 7

Harvesting

Sickle, reaper or combine harvester



STAGE 8

Post-harvest processing

Threshing, drying, storage and milling



STAGE 9

Marketing and support

FPOs, finance, insurance and extension

Pressures on Paddy Farming



STAGE 1

Input supply

Seed Selection
Limited access to certified seed; little outreach on high-yielding, climate-resilient or drought tolerant varieties, so uptake is low; costly hybrids; region-specific varieties unavailable.

Seed Treatment
Little outreach; few affordable, easy-to-use products; rainfed and tribal areas neglected; biological treatments see little uptake.

Seed Cleaning and Grading
Lack of infrastructure and equipment; slow, labour-intensive manual grading; little information on uniform seed size and purity.



STAGE 2

On-farm preparation

Soil Testing
Little soil-health outreach, and no access to timely, interpretable test results.

Tillage
Hard pan formation and high costs; limited mechanisation and delayed operations hurt levelling and sowing quality.

Ridge forming and levelling
Without ridges, drainage suffers and stands are uneven; without precision equipment, uneven fields get poor water distribution.

Puddling
Labour- and water-intensive; degrades soil structure over time.



STAGE 3

Sowing and planting

Sowing
Lack of mechanised sowing tools; poor crop establishment; high labour dependency.

Transplanting
High labour demand and drudgery; water-intensive traditional methods add to water stress; mechanised transplanters are lacking.



STAGE 4

Water management

Irrigation
Flood irrigation overuses water. AWD reaches few farms, which weakens resilience to drought, and irrigation is inadequate and dependence on rainfall high.

Weather Exposure
Crops are highly susceptible to floods, droughts, heat stress and unseasonal rain.



STAGE 5

Weed management

De-weeding
Manual weeding is time-consuming and exhausting, and mechanical or eco-friendly alternatives reach few farms.

Pressures on Paddy Farming



STAGE 6

Nutrient and pest management

Crop Protection
Heavy chemical use harms ecosystems. Climate-smart IPM and biological control reach few farms, increasing vulnerability to pest outbreaks.

Fertiliser Application
Excess or unbalanced use raises emissions and cost. A lack of precision tools such as the Leaf Colour Chart or GPS applicators adds to inefficiency. Few micronutrients are used.



STAGE 7

Harvesting

Harvesting Machinery
Affordable harvesting machinery for small plots and efficient threshers are hard to access, and labour is short at peak harvest. Manual harvesting causes inefficiency and losses.



STAGE 8

Post-harvest processing

Processing
Infrastructure and modern techniques are limited, and traditional milling gives low recovery. Very little value-added processing happens (poha, rice bran oil)

Handling and Storage
.Drying, hulling and milling units and storage facilities are insufficient. Improper handling causes high losses, and poor moisture control and storage pests erode grain quality.



STAGE 9

Marketing and support

Market Access
Sales depend on local traders and middlemen, with limited reach to regulated markets and digital platforms.

Farmer Producer Organisations
FPOs are fragmented and underperforming, and poor branding, packaging and aggregation keep specialty and organic rice from premium prices. Products are not diversified.

The Paddy Value Chain - Technologies and Practices



	STAGE 1 **Input supply**	STAGE 2 **On-farm preparation**	STAGE 3 **Sowing and planting**	STAGE 4 **Water management**	STAGE 5 **Weed management**
Technologies	• Certified, hybrid or high-yielding variety (HYV) seed • Seed cleaner, gravity separator, grader • Seed treater drum, slurry treater	• Tractor with mouldboard (M.B.) or disc plough, power tiller, nano tractor, rotavator • Tractor puddler, cage wheels • Laser land leveller, levelling boards • Bund former • Soil testing kits; multipurpose toolbox	• Broadcasting • Manual, bullock or tractor seed drill • Rice drum seeder • Paddy transplanter (walk-behind or ride-on), root wash transplanter • Zero-till drill, inclined plate planter	• Canals, motor or solar pumps • Gravity-fed bunded fields • AWD pipe, moisture sensors, Internet of Things (IoT) irrigation • Drip kits, sprinklers	• Cono, rotary and power weeders • Knapsack, power and drone sprayers
Climate-smart practices	• Certified seed that is pure, healthy, high-vigour and suited to the zone.• • Climate-resilient varieties • Low-cost tech • Reduced chemical use	• Solar powered implements • Precision farming • Soil and water conservation • Saguna Regenerative Technique - Combines no-tillage, permanent raised beds and crop rotation. • Bunds retain water and prevent erosion and runoff.	• Mechanisation saves labour • DSR skips puddling, saves water and cuts carbon	• Use of Solar pumps to avoid diesel emissions • AWD cuts water and methane • Keep 2-5 cm of standing water during vegetative growth and avoid deep flooding. During flowering keep adequate moisture without excess. • SRI and efficient irrigation also ease drought impact. Where irrigation is limited, field water tubes or moisture sensors guide AWD.	• Weeds can cut yield by 30-50%. • Pre-emergent herbicides are applied soon after sowing or transplanting. • Weeding is manual, or done with cono and rotary weeders in line-planted or SRI fields. • Labour-saving machines should be adopted • Drones give precision with low drift
In Karnataka	Seed treatment is moderately practised.	Tractor-based tillage is common. Laser levelling is used mainly in irrigated Karnataka	Direct seeding and transplanting are both common. Mechanised transplanting is moderate, especially in South Karnataka.	Canals, borewells and, in some areas, drip systems. AWD pipes and drip systems on progressive farms.	Power weeders are used in irrigated areas.

The Paddy Value Chain in Detail



	STAGE 6 **Nutrient and pest management**	STAGE 7 **Harvesting**	STAGE 8 **Post-harvest processing**	STAGE 9 **Marketing and institutional support**
Technologies	• Broadcaster, urea briquette applicator • Boom sprayer, mist blower, drone sprayer	• Sickle • Paddy reaper • Combine harvester, track combine	• Paddy or multi-crop thresher • Winnower, paddy cleaner, destoner • Solar dryer, mechanical paddy dryer • Hermetic bags, metal bins, silos • Hullers, pulverisers, mini rice mills, modern mills with sorters	• FPOs, cooperatives, digital platforms • Agri-credit, insurance, schemes • Krishi Vigyan Kendras (KVKs), advisory apps, non-governmental organisations (NGOs)
Climate-smart practices	• Soil-test-based balanced application is encouraged. • Organic and green manures are promoted. • Farmers use Panchagavya (a traditional organic stimulant) or plant growth regulators. • Integrated Pest Management (IPM) - Combines biological control, resistant varieties and judicious pesticide use, spraying only above the economic threshold. • Light and pheromone traps, with neem-based or botanical extracts where possible.	• Reaper and combine save labour and time • Harvesting is done when most grains are golden and hard; delay causes shattering and lodging. • Threshing is to be done soon after harvest, with mechanical threshers for volume or traditional beating and pedal threshers, then clean out chaff, stones and dust.	• Less post-harvest loss • Dry to 12-14% moisture. In humid areas, solar or mechanical dryers work better than sun drying. • Solar drying saves energy • Hermetic storage needs no chemicals and metal bins or raised bamboo structures can also be used • Grading of export quality with colour should be carried out to maximise returns	• Digital marketplaces • Crop insurance, subsidies • Smart farming adoption
In Karnataka	Fertiliser use is balanced, with urea briquette applicators. Under Direct Benefit Transfer (DBT), companies get the subsidy only after a point-of-sale device verifies a sale to a farmer. IPM is promoted in high-yield districts.	Combine harvesters are used in irrigated belts.	Paddy threshers are common in commercial belts. Modern mills in Mandya and Raichur, with FPOs emerging. Metal bins, and some hermetic bags in progressive areas.	APMC mandis and FPOs, with direct market access in peri-urban areas. FPO presence is moderate, backed by NABARD and SFAC. Farm apps such as Kisan Suvidha and Bhoomi are used.

Comparing Different Sowing Systems

	SRI	Puddled Transplanted Rice (PTR)	DSR
Sowing	Nursery sowing, fewer seeds	Nursery sowing, higher seed rate	Direct seeding in main field (dry or wet)
Transplanting	8-12-day single seedlings, wide spacing	20-30-day seedlings, closely spaced	None
Weeding	Manual or mechanical (mono weeder)	Minimal (water submergence)	Chemical herbicides needed
Irrigation	Intermittent (AWD)	Continuous flooding	Intermittent or need-based
Crop protection	Less pest pressure (aeration, spacing)	Pesticides needed (dense canopy)	High herbicide dependence



Karnataka and adaptation

- Direct seeding suits labour-short areas.
- Line sowing and transplanting dates with changing monsoons to avoid peak heat or floods.
- Walk-behind or ride-on transplanters are increasingly used in irrigated Karnataka.

Paddy Processing

Primary processing

Multi-stage processing of rice engages the following machines and processes



1. Precleaner



2. Destoner



3. Huller



4. Polisher



5. Grading and sorting



6. Packaging and storage



Secondary processing

Product	Key machinery
Rice flour	Pulveriser, flour mill, sieve, packer
Poha	Sand roaster, flaking machine, grader, dryer
Puffed rice (murmura)	Sand-heated roaster, air classifier, grader
Quick-cooking rice (instant or ready-to-eat)	Steam cooker, dryer, vacuum packer, retort pouch
Others	Rice batter



Value addition

Product	Key machinery
Noodles, vermicelli, pasta	Mixer, extruder, steamer, dryer, cutter
Rice-based snacks (crisps, chakli)	Kneader, extruder, fryer/roaster, packer
Others	Rice milk; bioethanol; probiotic snacks and nutraceutical powders; parboiled rice; flavoured or branded rice; baby food and porridge mixes; rice wine or beer

By-Products and Specialty Rice

Bran and husk become oil, feed, briquettes and silica, and red and black rice sell as specialty packs.





Product	Key machinery
Rice bran oil	Expeller, solvent extraction, refining
Husk briquettes	Briquetting machine, pellet press, grinder
Husk-ash silica	Controlled furnace, extraction reactor
Bran feed (de-oiled rice bran)	Expeller, filter press, drying bed, packer
Red/black rice	Colour sorter, grader, vacuum sealer, GI label

Innovations in the Paddy Value Chain



Innovators make products from paddy residue and add smart irrigation and automation on farms and in mills.

CultYvate smart irrigation (IoT and artificial intelligence)
Schedules irrigation and monitors crops, using 40% less water with better disease control and higher yields.

Fully automated rice mill, Surya Teja Rice Mill
Automates parboiling and ageing for consistent quality and energy efficiency.

Happy Seeder
Manages residue and sows from a tractor mount, which stops stubble burning and saves INR 3,500 a hectare.

Rice husk tableware, Qudrat
Made from paddy husk and bran, it is 100% biodegradable and replaces single-use plastic.

Paper from paddy straw, Indian Institute of Technology (IIT) Delhi
Turns agri-waste into pulp, which prevents stubble burning and creates income.

Green Super Rice varieties, International Rice Research Institute (IRRI) and Indian partners (pan-India)
Improved rice that won ICAR and IRRI collaborative awards.

Drones for rice spraying, Agribot and Marut Drones (Karnataka)
Precise spraying, recognised by Startup India and the Agri Grand Challenge.

Individual innovators
Boregowda (on-farm technology) and Syed Ghani Khan (processing unit).

Getting It to Market: Six Channels

Karnataka farmers sell through mandis, government procurement centres and FPOs.

Channel type	Key intermediaries	Suitability
Traditional	Farmer > trader > wholesaler > retailer	-
Government	Farmer > procurement centre > Public Distribution System (PDS)	Karnataka (e.g. Raichur)
Modern retail	Farmer > processor > branded retail chain	Urban India (Bangalore)
FPO-led	Farmer > FPO > consumer / retail / exporter	Emerging in tribal and remote rice belts
Export	Farmer > trader > exporter > importer	-
E-commerce	Farmer > brand > online platform > consumer	Growing in Karnataka



The Karnataka State Food and Civil Supplies Corporation procures at MSP, and the rice is distributed under food security schemes.

Rice mills such as Karnataka Rice Industries, Tumkur, make high-quality rice products for domestic and international markets.

Specialty rice exports are being promoted through branding and quality that meets international standards.

The electronic National Agriculture Market (e-NAM) supports better price discovery.

Stakeholders in SELCO's Paddy Programmes



Stakeholder types

Stakeholder type	Stakeholders
RE service provider	SELCO India
Tech service or appliance provider	Alto Precision, Gurunanak Agrotech, Sonu Agro
Financial institutions	Karnataka Gramin Bank (KGB/KVGB), Sri Bhramaramba Pattina Souharda Sahakari Sangha (a microfinance institution)
Government body or scheme	District Industries Centre, PMFME
Training institutions (KVKs)	Raichur, Dharwad, Haveri, Gadag, Belagavi
Market and other linkages (NGO, FPO)	Sahaja Samrudha, Bayaluseeme Krushikara Sangha (FPO), Swasthya FPO, MYRADA, ISAP, Sarvodaya, Vishala Rural Women and Children Development Organization

Linkages to Strengthen

Four of the seven stakeholder linkages in Karnataka's paddy sector are weak, including those to finance, government schemes and training.

Linkage	What programmes need to do	Strengths to build on
Weak	Enable NGOs to partner independently with tech and RE providers	Strong entrepreneur–tech/RE provider ties
Weak	Have NGO partners and tech/RE providers take responsibility for securing finance and government schemes	Financial institutions (FIs) strongly trust decentralised renewable energy (DRE)-enabled business
Weak	Build training into programme design, especially with tech supply-chain partners	Capable training institutions and tech/RE providers
Weak	Use government schemes to build market linkages	Good NGO–government scheme ties
Moderate	Make input/output market actors implementation leads; widen DRE tech uptake among suppliers, processors, aggregators	Entrepreneurs' strong input/output links; NGOs supporting the market
Moderate	Hold NGOs and tech providers jointly responsible for enabling credit or subsidy-based finance	NGO–tech provider and entrepreneur–FI ties
Moderate	Embed training in government scheme structures (DRE solution use, market linkage skills)	Entrepreneurs' links with training institutions and market stakeholders

Research and Field Organisations



Research institutions work at international, national and state level.

International

IRRI	An international rice research organisation, working on climate-resilient varieties such as Swarna-Sub1, DSR, AWD, nutrition-rich rice and rice genomics.

National (ICAR)

ICAR-Indian Institute of Rice Research (IIRR), Hyderabad	Coordinates national rice research, including hybrid rice, stress tolerance and precision farming.
ICAR-National Rice Research Institute (NRRI), Cuttack, formerly Central Rice Research Institute (CRRI)	Leads national rice R&D, including Swarna-Sub1 and the CR Dhan series.

Karnataka research

Zonal Agricultural Research Station (ZARS) Mandya	Works on varietal development, DSR and AWD.
University of Agricultural Sciences (UAS) Bengaluru, Dharwad, Raichur	Works on region-specific research, SRI and drought-tolerant varieties.
Agricultural Research Station (ARS) Gangavati (UAS Raichur)	Works on pest and disease control and mechanisation.
KVKs (Mandya, Mysuru, Raichur)	Provides farmer training, demonstrations and SRI/DSR trials.

Field organisations

Sahaja Samrudha (Karnataka)
An NGO network supporting over 15,000 organic farmers. It conserves more than 800 rice varieties and operates 34 community seed banks.

Digital Green (pan-India)
An NGO that has engaged over 150,000 farmers (70% women) across 2,000 villages through participatory videos.

Policy Support: Central Schemes

Central schemes offer paddy farmers support on price, insurance, income, irrigation and marketing.

Price	Minimum Support Price (MSP) PM Annadata Aay Sanrakshan Abhiyan (PM-AASHA), 2018	MSP is a government-fixed remunerative price, and PM-AASHA supports prices where MSP procurement is not feasible.
Insurance	Pradhan Mantri Fasal Bima Yojana (PMFBY), 2016 Restructured Weather-Based Crop Insurance Scheme (RWBCIS), 2016	PMFBY insures paddy against flood, drought, pests and rain at a 2% kharif premium, and RWBCIS offers weather-based cover.
Income	PM-KISAN, 2019 PM Kisan Maandhan Yojana (PM-KMY), 2019	PM-KISAN pays landholding farmers INR 6,000 a year, and PM-KMY pays a pension of INR 3,000 a month after the age of 60.
Irrigation and soil	PM Krishi Sinchai Yojana (PMKSY), 2015 Per Drop More Crop (PDMC), 2015 Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM), 2019 Soil Health Card, 2015 Paramparagat Krishi Vikas Yojana (PKVY), 2015	These fund irrigation and water efficiency, micro-irrigation, solar pumps and power plants, soil reports with fertiliser advice, and organic farming clusters.
Marketing	Electronic National Agriculture Market (e-NAM), 2016 National Agriculture Market (NAM), 2016 10,000 FPOs, 2020	e-NAM offers online paddy marketing across APMCs and NAM offers online agri-commodity trading, while the 10,000 FPOs scheme supports FPO formation.

Finance and Local Support: Credit, State Schemes and ODOP

Credit and subsidies finance rice processing, and Karnataka adds its own incentives.

Kisan Credit Card (national; Reserve Bank of India (RBI), NABARD, banks)	Low-interest, short-term crop loans of up to INR 3 lakh for cultivation, irrigation, seed and inputs.
Agriculture Infrastructure Fund (national; Ministry of Agriculture and Farmers Welfare (MoA&FW), banks)	Loans for rice mills, dryers and storage, with a 3% interest subvention for 7 years.
Modified Interest Subvention Scheme (national; NABARD, banks)	A 2-4% interest subsidy on crop loans.
PMFME (national; MoFPI, banks, NABARD)	A 35% capital subsidy for rice processing units run by individuals or FPOs.
Dairy and Food Processing Fund (national; NABARD)	Loans for rice-based processing and value addition.
Karavali Package (Karnataka; Agri Dept)	An INR 7,500/ha incentive for coastal paddy.
Raitha Samparka Kendras (Karnataka)	Give access to quality seeds, fertilisers and scheme information.



One District One Product

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districts across India have rice as their One District One Product

Collaboration

Working together on paddy in Karnataka

SELCO Foundation invites rural communities, FPOs and institutional partners working on paddy in Karnataka to collaborate, including on pilots.













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