6.1 Responding to evolving needs

The demand for rural infrastructure has undergone sea change over the last few decades due to the adoption of modern farming methods; management of resource constraints; influence of global value chains; expanded agro-processing demands; pressure on natural resources; demand for digitalisation; evolving tax regimes; and climate change imperatives. Taking cognizance of this transformation, NABARD has been playing a catalytic role in building India’s rural infrastructure by leveraging various funds at its command (Figure 6.1). The latest addition to its range is the Rural Infrastructure Assistance to State Governments initiated in 2020 to support livelihoods in eastern India under the 5-J approach—Jan (people), Jal (water), Jameen (land), Janwar (livestock), and Jangal (forest). The scheme has now been extended to aspirational districts also.

Under construction twin carriageway railway overbridge (ROB) at Bagpat on Baraut-Muzaffarnagar (Uttar Pradesh) highway
**Notes:**

1. CFF = Credit Facility to Federations; DIFD = Dairy Processing and Infrastructure Development Fund; FIDF = Fisheries and Aquaculture Infrastructure Development Fund; FPF = Food Processing Fund; LTIF = Long Term Irrigation Fund; MIF = Micro-Irrigation Fund; NIDA = NABARD Infrastructure Development Assistance; PMAY–G = Pradhan Mantri Awaas Yojana (Gramin); RIAS = Rural Infrastructure Assistance to State Governments; RIDF = Rural Infrastructure Development Fund; SBM–G = Swachh Bharat Mission–Gramin; WIF = Warehouse Infrastructure Fund.

2. Corpus (₹ crore) of RIDF: 40,000; MIF: 5,000; FPF: 2,000; WIF: 9,481; DIFD: 8,004; FIDF: 2,508 (NABARD’s share of a total of 7,522.5).

3. Years with the fund indicate their inception.

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a Pradhan Mantri Awaas Yojana–Gramin was initiated in 2015. NABARD assistance started in 2018.

b Assistance to National Rural Infrastructure Development Agency, a special purpose vehicle (SPV) of Government of India (GOI)

c Supporting marketing federations and cooperatives

d Only advance interest subvention placed with NABARD

e Advance discussions with state governments are underway

f Universal rural sanitation coverage

g Assistance to GOI SPV, National Centre for Drinking Water, Sanitation, and Quality

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**Figure 6.1:** NABARD-managed infrastructure funds for rural India (₹ crore)
NABARD has responsively evolved its infrastructure portfolio and outreach in tune with the external ecosystem and demand. New products have been developed and existing ones scaled up to reach difficult geographies and infrastructure-starved areas such as the North East Region (NER), Jammu & Kashmir (J&K), and Ladakh. In FY2022, road over bridge (ROB) on railway crossings and ropeways were added to the list of eligible RIDF\(^2\) activities to ensure safer and quicker transport to the rural people residing in difficult terrains, promoting economic and developmental activities in the areas they connect. In this context, recent initiatives in the NER and J&K focus on a bouquet of infrastructure activities such as irrigation, connectivity, knowledge centres, solar lighting, and veterinary infrastructure (Showcases 6.1 and 6.2).

### Showcase 6.1: Seeding green growth in the Seven Sisters

**Initiative:** To promote sustainable and green growth through infrastructure development and agri-interventions in the NER, solutions are being customised to state-specific needs, resources, and challenges. It is hoped that this will bring about community-led, participative, and sustainable development in these states.

**Financial assistance**
- Medium term loan under RIDF with 2–3 years phasing
- Sanctioned ₹3,734.1 crore in FY2022, 53% higher than FY2021
- Sanctions accounted for 9.3% of the annual RIDF sanction target

**Activities undertaken in the NER**

Output >> Outcomes >> Impact (expected)
- 2,003.4 km road length
- 21.4 km bridge length
- 53,957.7 ha cultivable command area
- 602.4 lakh person-days of employment

**Note:** ha = hectare; NER = North East Region; RIDF = Rural Infrastructure Development Fund.
Showcase 6.2: Driving growth in Jammu & Kashmir

**Initiative:** To promote economic growth, prosperity, and stability in Jammu & Kashmir through development of rural infrastructure.

**Financial assistance**
- Medium term loan under RIDF with 2–3 years phasing
- Sanctioned ₹1,542 crore in FY2022, 96% higher than FY2021
- FY2022 approval 3.9% of the annual RIDF sanction target

**Activities undertaken in Jammu & Kashmir**

- **Cold rooms**
- **Sericulture farms**
- **Rural roads and bridges**
- **Lemon grass essential oil and aloe vera gel unit**
- **Minor irrigation projects**
- **Pesticide testing laboratories**

**Output >> Outcomes >> Impact (expected)**
- 1,391.5 km road length
- 0.4 km bridge length
- 602.5 ha cultivable command area
- 254.1 lakh person-days of employment

*Note:* ha = hectare; RIDF = Rural Infrastructure Development Fund.

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6.2 Infrastructure for the agriculture and allied sector

**6.2.1 Augmenting irrigation potential**

To improve agricultural production and productivity, reduce production risks through drought-proofing, and expand cultivated area, NABARD has supported irrigation projects across India under different funds (Figure 6.2). These projects have transformed the rural landscape, delivering impactful outcomes.
Of the several crucial irrigation projects financed by NABARD, some have historical significance. In one such instance, the renovation of the vintage Upper Anicut, originally constructed by Sir Arthur Cotton in 1836 on Coleroon river (the northern branch of Cauvery river) at Mukkombu is being supported (Showcase 6.3).

**Showcase 6.3: New regulator on Coleroon river**

**History:** In 2018, 9 of the 45 shutters of the 182-year-old Upper Anicut at Mukkombu across the southern arm of the Coleroon river had collapsed along with supporting piers and motors, washing away a sixth of the brick masonry.

**Initiative:** NABARD supported the construction of a new regulator at Mukkombu (Upper Anicut) in Tiruchirappalli district across the southern and northern arms of the Coleroon river, 75 metre downstream from the damaged regulator.

**Financial assistance:**
- Total financial outlay: ₹387.6 crore
- RIDF sanction: ₹368.2 crore
**Output >> Outcome >> Impact**

- The project will stabilise 23,050 ha of irrigable area across 80 villages.
- It will benefit around 3,18,725 people from 5 districts.

**Note:** ha = hectare; RIDF = Rural Infrastructure Development Fund.

### 6.2.2 Infrastructure for livestock sector

**Dairy**

NABARD set up the Dairy Processing and Infrastructure Development Fund (DIDF) with the total corpus of ₹8,004 crore. Under the scheme, NABARD started extending loans to National Dairy Development Board and National Cooperative Development Corporation for a 5-year period (FY2019–FY2023) for them to on-lend to eligible end-borrowers such as cooperative milk unions, state cooperative dairy federations, multi-state milk cooperatives, milk producer companies, self-help groups (SHGs), and farmer–producers’ organisations (FPOs), registered under Cooperative/Companies Act.

NABARD has supported 21 projects with a sanction of ₹3,781.5 crore (disbursed: ₹1,349.4 crore) up to FY2022 under DIDF to develop and modernise milk processing facilities with wide socioeconomic impact. For instance, the DIDF loan to Bhilwara Milk Union (BMU) for its new 5 lakh litre per day (LLPD) dairy plant is expected...
to increase procurement to 4.2 LLPD by the end of FY2023; improve BMU’s margins; and benefit 44,600 milk producers and farmers in the area.

NABARD sanctioned ₹364 crore in FY2022 (disbursed: ₹118.7 crore) to assist six milk unions in Telangana, Haryana, Punjab, Kerala, Madhya Pradesh, and Bihar to
- create 162 LLPD of processing capacity;
- modernise the current 6.8 LLPD capacity of plants;
- generate 2,776.5 metric tonne per day (MTPD) of value-added products; and
- augment chilling infrastructure (3.5 LLPD) and milk powder processing capacity (330 MTPD).

**Animal husbandry**

In FY2020, under the Animal Husbandry Infrastructure Development Fund (AHIDF) (with a corpus of ₹15,000 crore), interest subvention of 3% to all eligible entities is being extended along with a credit guarantee @25% of the project cost from NABSANRAKSHAN, a NABARD subsidiary. Loans from commercial banks up to 90% of project cost are being given to private companies; micro, small, and medium enterprises; FPOs; and individual entrepreneurs to set up dairy processing, meat processing, and value-added product manufacturing units.

**Fisheries and aquaculture**

Government of India’s (GOI’s) Fisheries and Aquaculture Infrastructure Development Fund (FIDF) aims to achieve 8%–9% of sustained growth to reach 20 million tonne in fish production by FY2023. Under the scheme, NABARD as one of the nodal loaning entities, will infuse ₹2,600 crore through state governments to fund public infrastructure such as fishing harbours and fish landing centres (Figure 6.3). During FY2022, NABARD has entered into tripartite memoranda of agreement with Department of Fisheries, GOI, and 11 state governments to develop fisheries projects.

**Figure 6.3: NABARD action under FIDF**

Since its inception in FY2020 (up to FY2022), 35 projects have been supported with a cumulative sanction of ₹1,260.3 crore (disbursement: ₹365.7 crore) across 4 states.

In FY2022 alone, 32 projects in 4 states worth ₹912.3 crore were sanctioned (disbursement: ₹171.9 crore).

**Output >> Outcomes >> Likely Impact**

It is envisaged that over 2.0 lakh fish farmers will benefit from FIDF projects.

Note: FIDF = Fisheries and Aquaculture Infrastructure Development Fund; MOA = Memorandum of Agreement.
6.3 Infrastructure for rural connectivity

Better rural connectivity can undisputedly improve access to health, education, raw material, markets, credit, and logistics, and also ease rural life leading to faster development. To this end, NABARD has been funding rural road and bridge projects since 1996 (Figure 6.4).

**Figure 6.4: NABARD-funded rural connectivity projects (up to FY2022)**

<table>
<thead>
<tr>
<th>RIDF</th>
<th>NIDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>~5.1 lakh km</td>
<td>~7,410 km</td>
</tr>
<tr>
<td>road length</td>
<td>road length</td>
</tr>
<tr>
<td>~12.9 lakh metre</td>
<td>~127 km</td>
</tr>
<tr>
<td>bridge length</td>
<td>of road length upgraded</td>
</tr>
<tr>
<td>&gt;65,500 lakh</td>
<td>&gt;7.9 km</td>
</tr>
<tr>
<td>man-days of non-recurring employment</td>
<td>bridge length</td>
</tr>
</tbody>
</table>

Notes:
1. NIDA = NABARD Infrastructure Development Assistance; RIDF = Rural Infrastructure Development Fund.
2. Connectivity projects account for 35% of RIDF sanctions.

Evidence shows that these projects have reduced travel time, spurred economic activity, improved market access, facilitated linkages to value chains, enhanced credit access, and ensured better access to healthcare. The outcomes have improved the opportunities for and well-being of the communities in the project area. As mentioned earlier, in FY2022, new categories of infrastructure such as bridges over railway crossings and ropeways were financed (Figure 6.5).

**Figure 6.5: New activities financed in FY2022**

<table>
<thead>
<tr>
<th>ROB on railway crossings</th>
<th>Ropeway</th>
</tr>
</thead>
<tbody>
<tr>
<td>177.9</td>
<td>42.5</td>
</tr>
<tr>
<td>7.2</td>
<td>42.5</td>
</tr>
<tr>
<td>4</td>
<td>7.7</td>
</tr>
<tr>
<td>55</td>
<td>480</td>
</tr>
<tr>
<td>Market centres (number)</td>
<td>Villages benefitted (number)</td>
</tr>
</tbody>
</table>

Notes:
- Total length of ROB, of which 5.9 km will be constructed by the state government funded under RIDF XXVII and rest will be constructed by Indian Railways.
- RIDF = Rural Infrastructure Development Fund; ROB = Road Over Bridge.

6.4 Post-harvest infrastructure

NABARD has been supporting investments to create time (through storage), form (through processing facility), and possession (through marketing facility) utility of agricultural commodities and create value for the producers. Such investments help enhance shelf-life and reduce wastage and loss of produce while satisfying the consumer tastes and needs.

6.4.1 Agri-storage

Scientific storage can provide farmers an opportunity to stagger the sale of their produce and avoid distress sales to realise better prices. Farmers can also obtain post-production credit pending sale of their produce against negotiable warehousing receipts. NABARD’s efforts in building storage capacity for farmers are shown in Figure 6.6.
Figure 6.6: NABARD supported agri-storage

NABARD funded the following initiatives to improve storage infrastructure:

- **Integrated value-chain project** for fruits and vegetables
- **Modern, scientific, and earthquake-resistant warehouse** in the NER
- **Online trading platform projects of Agricultural Produce & Livestock Market Committee**
- **Web-based agri-storage** information system for farmers/traders/producers to locate warehouse within a 30-km radius through Kisan Bhandar mobile app
- **1,11,162 storage structures** geotagged and linked to centralised database which can be ported with other platforms like e-NAM to create integrated portal

Note: MT = Metric tonne; e-NAM = Electronic National Agricultural Market; NER = North East Region.

Figure 6.7: NABARD-supported food processing infrastructure (up to FY2022)

Projects:
- **14 mega food parks** in 12 states | 7 operational
- **8 agro-processing clusters** in 2 states | 1 nearly complete
- **13 food processing units** in 7 states | 2 completed

Output >> Outcomes >> Impact (expected):
- **2,14,000 MT** of dry warehouses for non-perishable raw material and finished goods
- **58,800 MT** aggregate capacity of silos for bulk storage of agricultural produce
- **1,01,210 MT** cold storage capacity for perishable finished products
- **12,900 MT** freezer capacity for storing finished products
- **11.50 MT** per hour capacity to produce individually quick frozen fruit and vegetable products
- **132.5 MT** per hour capacity to sort and grade fruits and vegetables
- **1,253 MT** controlled ripening capacity
- **31.75 MT** per hour capacity to extract and aseptically pack fruit pulp

Note: MT = Metric Tonne.
6.4.2 Food processing

India’s food processing sector is one of the largest in the world with a projected output of $535 billion by FY2026. In lockstep with India’s growing demand for processed foods, NABARD has committed ₹781.1 crore in financial support since 2014 (up to FY2022) for projects in 16 states including the NER (Assam, Manipur, and Meghalaya). NABARD’s Food Processing Fund has played a crucial role in minimising food wastage, diversifying and expanding value addition, and linking farmers to consumers (Figure 6.7).

6.4.3 Marketing

Rural marketing infrastructure helps link producers with markets. This, in turn, ensures food availability where needed, disintermediation, de-risking, and augmenting of income. It can even act as a pull factor to discourage out-migration.

NABARD has been supporting rural haats, marts, and exhibitions towards securing better rural incomes and expanding marketing opportunities (Figure 6.8).

Haats and marts can increase the number of market participants (sellers and buyers) and boost the sellers’ income. The impact of such rural outlets can amplify with infrastructure creation (through RIDF) and building community-level institutions (such as SHGs), as a study in Dumka and Bokaro districts of Jharkhand indicated. For improving their reach, NABARD, in FY2022, supported the creation of a distinctive and prominent model haat design making NABARD-supported stalls easy to spot, even without signboards.

6.5 Infrastructure for quality of life

NABARD actively supports and finances several other infrastructure activities such as education, health, drinking water, rural housing, sanitation, electricity transmission, and renewable energy. These social projects were financed by NABARD in FY2022 under various funds including RIDF and NABARD Infrastructure Development Assistance (NIDA) (Table 6.1). Under NIDA alone, NABARD sanctioned 20 projects in social infrastructure such as drinking water and education (Figure 6.9 and Showcase 6.4).

NABARD has extended loans for rural housing under Pradhan Mantri Awaas Yojana–Gramin (PMAY–G) since 2017–18 and for household toilets under Swachh Bharat Mission–Gramin (SBM–G) during FY2019 and FY2020 towards part funding of GOI share.

### Table 6.1: Development fund support to social sector infrastructure

- Social sector constitutes 32.7% of total loan sanction under RIDF tranche XXVII. The major portion of these loans has been extended towards drinking water projects (67%), followed by education (18.8%), and healthcare (12.8%).

- In FY2022, in line with GOI priority, an amount of ₹10,068.7 crore was sanctioned to facilitate the installation of rural drinking water schemes by state governments. Out of this, ₹6,256.5 crore in aggregate for 18 proposals was sanctioned to benefit 2.8 crore persons in 13,954 villages across 10 states under Jal Jeevan Mission.

- These social sector proposals have paved a way towards achievement of zero hunger (SDG 2); good health and well-being (SDG 3); quality education (SDG 4); and clean water and sanitation (SDG 6) in rural India.

Note: GOI = Government of India; RIDF = Rural Infrastructure Development Fund; SDG = Sustainable Development Goal.
**Figure 6.9:** Expected outputs of social sector projects under NIDA (as on 31 March 2022)

- Network to connect 30,000 plus government offices and free internet to 20 lakh households in Kerala
- Construction of 3.5 lakh rural dwelling units under PMAY-G
- 700 additional annual MBBS graduates
- 7,880 additional annual graduates in other disciplines
- 3,000 additional beds (after construction of 7 medical colleges and upgrade of hospitals)

*Note:* MBBS = Bachelor of Medicine and Bachelor of Surgery; NIDA = NABARD Infrastructure Development Assistance; PMAY-G = Pradhan Mantri Awaas Yojana-Gramin.

**Showcase 6.4: Support to Mission Bhagiratha of the Government of Telangana**

**Initiative:** To sustainably provide safe and adequate potable water across Telangana.

**Financial assistance**
- Five projects worth ₹5,416.7 crore covering grid works in five districts and intra-village works in three districts.

**Status:** Four projects completed till FY2022.

**Output >> Outcomes >> Impact**
- Safe (treated) drinking water to 74 lakh people (17.4 lakh households) in 6,974 habitations
- Better health outcomes, especially in the fluoride-affected areas of Nalgonda
- Reduction in drudgery of women fetching water from afar
- Social empowerment, economic benefits, and savings in time, effort, and cost
6.6 Modernising infrastructure for a better tomorrow

Improving the ease of doing business and ease of living in rural India have to go hand in hand as a fundamental prerequisite for rural prosperity. As the apex development finance institution in the country, NABARD has continuously shouldered its expected role. To translate the overall vision into tangible assets that are useful for rural lives and livelihoods, NABARD has often brought in the necessary technical support, provided handholding and oversight assistance, and shared knowledge and insights.

In FY2023 and beyond, NABARD envisages

- increasing resilience of agri-value chains through post-harvest infrastructure;
- improving social infrastructure across rural India with special emphasis on drinking water supply and sanitation;
- enhancement of last-mile connectivity through ropeways and ROB on railway crossings in addition to roads and bridges;
- sustainable development through rural infrastructure with a special focus on the NER, Jammu & Kashmir, Ladakh, and other hilly states;
- directed policy action to enhance RIDF allocation towards central, eastern, and north-eastern states for balanced regional development;
- impetus for renewable energy and climate-smart solutions in agriculture and related sectors to contribute to the achievement of SDGs; and
- encouraging micro-irrigation interventions so that they gain the critical mass needed to deliver large-scale water efficiency to water deficit regions in the country.

Notes

1. RIDF = Rural Infrastructure Development Fund.
3. PMAY-G is a flagship programme of the GOI targeting ‘housing for all’ by 2022 and SBM-G, aims at universal sanitation coverage in rural areas by 2 October 2019.