Vision 2050 for UT of Ladakh
1 | Background & Context
   Positioning Ladakh
   Key challenges

2 | Vision 2050
   Approach towards Vision

3 | Focus areas for advancement
   Current assessment
   Development strategies

4 | Ladakh’s outlook in 2050
   Achieving sustainable objectives
Background and Context

DEVELOPMENT STATUS OF HILL AREAS IN INDIA BASED ON GOOD GOVERNANCE FRAMEWORK

LADAKH - NOW

- Captive employment skills and opportunities
- Reforms in education with local requirements
- ~ 40% of population has no access to available infrastructure
- Lack of sufficient healthcare professionals and access to technology
- Significant role of SME at household level
- Offsetting through imports to meet food demand

Social Welfare & Development

Human Resource Development

Infrastructure

Public Health

Industries & Commerce

Agriculture

Development Status of Hill Areas in India Based on Good Governance Framework

- Ladakh
- Arunachal Pradesh
- Assam
- Himachal Pradesh
- Meghalaya
- Nagaland
- Manipur
- Mizoram
- Sikkim
- Tripura
- Uttarakhand
Key Challenges

- 70% of the food demand is met by imports
- Agricultural income is dependent upon 0.2% of total land area
- Seasonal tourism sector

- Limited connectivity in seasons
- 54% settlements do not have accessibility options

- ‘Digital Divide’ in telecom and IT
- High access to digital services in Leh and Kargil cities
- Limited access to CSC in other settlements

- 20% population has limited access to specialized healthcare
- Avg. time to reach a district/sub-district hospital ~ 3 hours

- Localized education system
- Limited access to higher education institutes

- 36% deficit in Power Supply
- No power supply for 30% of the day

- 38% deficit in drinking water supply
- Limited access to piped water supply

- 95% waste disposed off untreated
- High dependency on plastic
Vision 2050

- Sustainable agriculture development
- Thrust on SMEs and Investment Promotion
- Development & promotion of tourism
- Surplus employment opportunities

- Connectivity by all weather roads
- Green and sustainable public transport system

- Integrated CSCs across UT
- Digital platforms for easy access by citizens
- District CCCs for effective monitoring

- Access to specialized healthcare within 1 Hour
- Mobile medical units for on demand healthcare

- 30 GW of power generation
- Promotion of Clean Energy
- SMART integrated monitoring mechanisms

- Assured 24x7 quality water supply
- Tap Water Connectivity to every HH

- ‘Zero Waste Ladakh’
- Waste to energy

- SMART education system
- Easy access to higher education facilities
- Skill development and employability

- SMART infrastructure
- Integrated Development
- Carbon Neutral
Ladakh
Next

‘3-C’ Approach for Vision 2050

**Hubs of Development, Urbanization and Economy**

Service Zone of Hubs
(1 Hour Travel Time from the centre point of hub)

**Spokes – Sub Centres for Regional Infrastructure Development**

Service Zone of Spokes
(1 Hour Travel Time from the centre point of spoke)

**Community**
Citizen Centric Development

**Connectivity**
100% Accessibility & Mobility

**Clusters**
Decentralized Regional Development
VISION 2050
Ladakh’s population is growing @ 1.65% per annum

Population in 2011 = 2.7 Lakh
Est. population in 2020 = 3.1 Lakh

Urbanization Growth Rate (2001-2011) = 6% per year

23% of Ladakh’s total population resides in Urban areas currently and this urbanization is growing @ 6% per year

46% Workforce Participation
  • Leh District : 56%
  • Kargil District : 37%

Average Household Size - 7
  • Total Households = 40247 HH
  • Leh District = 21909 HH (Size - 6.09)
  • Kargil District = 18338 HH (Size - 7.67)

Administrative Structure – 2 Districts (Leh and Kargil)

Ladakh comprises of 4 urban areas and 238 villages in its 25 Blocks
65% of total population is in and around Leh and Kargil City (i.e. within 50 Km)

74% of urbanization is in and around Leh City (including Spituk & Choglamsar CT)

90% settlements along the 3 Regional Corridors:
1. Kargil to Zanskar
2. Kargil to Nyoma
3. Turtuk to Chulshul

Rapid rural to urban transition
Population is expected to double up by 2050 (~ 5 Lakh)

Leh and Kargil cities will continue to witness urbanization and become major Economic centres

Share of settlements with <1000 population will decrease from 70% to 44%

Need to decentralize the development activities for balanced regional development

Most of the development activities are concentrated in Leh and Kargil. For balanced growth of UT, it is imperative to develop other regions.
1 

Economy – Agriculture, Industries & Tourism
Agriculture & Horticulture
Agriculture and Horticulture

Basic Statistics:
- Area sown: 33%
- Food Grain Production: 1.0 Lac Qtl pa
- Fruits Production: 1.6 Lac Qtl pa

Demand Supply Gap
- 73% food grains are imported
- 85% of Fruits are imported

Average consumption of Fertilizer/Pesticide
- Fertilizer: 60 kg/ha
  National average: 123 kg/ha
- Pesticide: 0.073 kg/ha
  National average: 0.26 kg/ha

Seabuckthorn:
- Potential Area for growth: 13,000 Hectares
- Harvested Area: 5-10%
- Total Production: 581 MT
These Hubs would act as market areas for provision of seeds and fertilizers at subsidized rates and warehouses for logistics movement from UT. These centres would enable establishment of FARM MARTS and post harvest treatment centres would be covered under marketing schemes such as e-NAAM.

**DEVELOPMENT STRATEGIES**

1. **Development of clusters to produce high value crops in bulk**

2. **Development of Model organic villages and model farm marts and integration with Hub and Spokes**

3. **Integration of Organic Farming with Markets, value chains, and trade**

4. **Branding and marketing of organic products of the District**

5. **Encourage army, Hotels and local commercial establishments to buy organic farm produce**
Industries and Manufacturing
Industries and Manufacturing

- **Industrial Estate Chanchik**: 1.6 Ha (54 Plots)
- **Industrial Estate Nubra**: 10 Ha
- **Industrial Estate Khaltsi**: 0.1 Ha (15 Plots)
- **Industrial Estate Pheyang**: 15 Ha (184 Plots)
- **Industrial Estate Leh**: 12 Ha (121 Plots)

**Existing Industrial Estate**
- **Industrial Estate Kargil**: 0.5 Ha (10 Plots)

- **MICRO AND SMALL SCALE INDUSTRY**
  - Handloom: 12%
  - Metal based: 19%
  - Handicrafts and Wood Work: 13%
  - Repairing & Servicing: 14%
  - Others: 42%

- **SHARE OF TOTAL NO. OF UNITS**
  - 95% Micro and Small Industries operated at Household Level

Out of 1270 total industrial units, small scale food processing are less than 50 and cater to domestic demand only.

40-50 Ton of Pashmina wool produced per year in Ladakh, less than 1% of the global production per year.

Handicrafts serves as the secondary revenue generator after agriculture and tourism.

34 Handicraft Training Centres, but only 3000 trainees trained in last 5 years (23 Centres in Leh District & 11 in Kargil District)
Availability of Milk in Ladakh = 2,38,000 Kg per day i.e. ~ 600 gms / capita / day (including army population in Ladakh) (National average = 394 gms / capita / day)

Estimated INR 250 Crore+ industry but has not developed in an organised manner to utilize its full potential

~50% Surplus production of milk in Ladakh, with a potential to process / export and generate revenue
- Avg daily demand ~ 94,000 Kg
- Avg. daily availability ~ 2,38,000 Kg
Proposed textile park for Pashmina and other Handloom Products

Proposed locations for Food Processing Parks
Proposed areas for development of Handicraft Markets
Proposed textile park at Nyoma for Pashmina and other Handloom Products
Re-utilization of existing milk processing plant in Leh on PPP Basis

DEVELOPMENT STRATEGIES

1. Framework for “Ease of Doing Business” for attracting investment promotion
2. Creation and sustenance of SME clusters with common infrastructure
3. Support infrastructure (dedicated freight network, way-side amenities and warehousing)
4. Strengthening co-operative societies to support village level growth opportunities
5. Quality standardization with international QC organizations
6. Trademark to support branding and marketing of finished products
7. Investment attraction through marketing and promotion in domestic and international markets
8. Adoption of technology centric breeding and rearing of animals for milk and wool
9. Capacity building of producers in animal health care, maximizing yield and quality control
1.3 Tourism
Tourism contributes ~50% to the GDP of Ladakh

Tourist inflow doubled ~ 2 - 4 Lakh in last 5 Years (CAGR = 15%)

Average stay duration per tourist ~7-10 Days

87% Domestic tourists in 2018-19

88% of the tourist accommodation facilities in Leh District

Tourist season restricted to summer season (4-5 months)

Absence of regulatory and monitoring framework

Insufficient infrastructure for safety and tracking of tourists

Limited Branding and Media Reach

Major Tourist Destinations

Monasteries & Heritage Sites

Mosques
All Weather Tourism

DEVELOPMENT STRATEGIES

1. To provide safe, secure and unique “All Weather Tourism”

2. To create an enabling environment for investments for sustainable tourism

3. To promote Tourism Diversification through theme based development

4. To build capacity and develop quality human resources through skill development and cooperatives

5. To ensure that sustainable tourism primarily benefits host communities

Diversification through theme based development:

- Eco Tourism
- Agro / Organic Tourism
- Winter Tourism
- Adventure Tourism
- Pilgrimage Tourism
- Cultural & Heritage Tourism
- Film Tourism
Connectivity and Transport
Regional Connectivity & Transport

- Only 2 roads connecting Ladakh to rest of India, with limited access during winter season.
- Minimal inter-state and inter-city public transport by road.
- Only 1 Airport operating limited Commercial Flights.
- Proposed Railway Line from Bilaspur to Leh.
- Proposed Heli Services from Leh and Kargil to remote locations.
~4300 Km of Road Length (39% under PWD & 61% under BRO)

54% villages (25% population) do not have access to ‘Pucca Roads’

Majority of roads with intermediate / 2 lane configuration (6-10 mt.)

Lack of road side infrastructure for convenience of road users
Limited public transport services through SRTC and cooperatives

54% villages in Leh do not have access to regular bus service

Availability of Buses per 1000 Population = 1.61

100% overaged buses (more than 10 Years of age) with BS-III technology

Only 2.2% share of Buses in total registered vehicles

Lack of public transport infrastructure – terminals, depots, stop/shelters and other passenger and staff facilities
Connectivity by all weather roads by 2030

Green & Sustainable Public Transport

Development Strategies

1. Connecting all settlements with all weather roads
2. Upgradation in capacities of regional road network
3. Connectivity by Bus Transport System to Economic & Social Growth Centres
4. Transition to Green fuels: Electric and LNG for carbon neutrality
5. Development of allied infrastructure
6. SMART technologies for operation, management and monitoring
7. Digital payment mechanism for public transport
Power and Energy
Ladakh Now

Electric Power Supply

- 90% Household Electrification in Ladakh
- ~140 MW Installed Generation Capacity
  - 19% Diesel Power
  - 72% Hydel Power
  - 9% Solar + Hydro Mix
- Only 74% utilization of Installed Capacity (i.e. 105 MW)
- ~25% Transmission & Distribution Losses
- ~64% Energy Deficit in Winter
  - Demand: ~50 MW
  - Supply: ~18 MW
- ~15 Hours of power supply per day
DEVELOPMENT STRATEGIES

1. Harnessing the potential of other renewable energy sources (wind and geothermal power) available
   - Solar Potential = 35 GW
   - Wind Potential = 4 GW

2. System planning for transmission and evacuation infrastructure to support potential growth in installed capacity

3. SMART Grid with Smart Metering for efficient demand side management and reduction in T&D losses

4. Micro Grids for power supply to remote areas not connected to main grid

Potential Site and Generation Capacity for Solar Power Plant

35 GW of Solar Potential
- 32 GW in Leh (91%)
- 3 GW in Kargil (9%)

Only state with 100% clean energy
Potential to become 1st ever state in India running on 100% clean energy

Major source of revenue generation for UT
Water Supply and Waste Management
Water Supply and Waste Water Management

1269 Households with FHTC in Leh City, out of 15,973 Households.

168 Households with FHTC in Kargil City, out of 17,992 Households.

Partial Network of piped sewerage system in Leh City.

No network of piped sewerage system in Kargil City.

1 Faecal Sludge Treatment Plant (FSTP) at Leh.

96% Households without Functional Tap Water Connection.

~38% Water Supply Deficit
- Demand: 63 Lakh Gallons/Day
- Supply: 39 Lakh Gallons/Day

Only 1 Faecal Sludge Treatment Plant (FSTP) in Ladakh for the city of Leh.

More than 75% of the households are dependent upon on-site sanitation facilities (Septic Tanks, Pit latrines, etc.).

*FHTC – Functional Household Tap Water Connection
Large scale harvesting and storing of winter water which can be used during peak demand in summers

State Level accredited water testing laboratories for water quality testing

Functional Household Tap Connections for water supply for every household under Jal Jeevan Mission

Technological interventions to provide piped water supply at sub-zero temperature during winter season

Decentralised Faecal Sludge and Septage Management for waste water treatment (1 FSTP for a cluster of 20,000 Population)
~96 Ton of Solid Waste generated per Day

Nearly 0.35 Kg waste generated per capita per day

Waste generation sources – Household, commercial establishments, hospitality sector, medical institutes, construction sites and street sweeping

Inefficient collection, transport, storage and disposal

No source segregation of waste

Unorganised secondary storage of solid waste on roadside

Manual handling of solid waste

Lack of waste treatment facilities

No engineered sanitary landfill site

Industrial waste is managed by the individual industry itself and there is no Effluent Treatment Plant (ETP)
**Solid Waste Management**

**Development Strategies**

1. Sustainable Integrated Solid Waste Management System in Urban Areas
2. Development of plants for efficient treatment and disposal of waste
3. Project “Tsangda” in rural areas for solid waste management
4. Policy & regulation, awareness & enforcement and management of plastic waste at Tourist locations
5. Intelligent Solid Waste Management for efficient waste management and monitoring

Intelligent solid waste management system, treatment plants, and institutional system to define operation procedures, policies and guidelines for monitoring and management of solid waste.

Collection centres, composting plants, distribution system to nearest waste management plant.
Education & Skill Development
Limited access to digital education in schools

Initiatives such as ‘Student Educational and Cultural Movement of Ladakh’ and operation ‘New Hope’

Challenges of physical facilities in government schools

Only two Industrial Training Institute

Literacy rate in Ladakh
Leh : 77.2 %
Kargil : 71.1 %
Development of an active learning environment through SMART and digital educational platforms

Development of higher Education paradigm by introduction of career focused institutions, Mentor model - Research Centres

Participation of private sector in Vocational Education and Industrial Training for Employability

Incentivising institutes to make ‘Teaching’ as a Secure and Attractive Career choice
Good Health & Wellbeing
JAMMU & KASHMIR

Medical and Health Facilities

District Hospital = 02
Sub-District Hospital = 03
PHCs = 57
FW Centres = 270
Bed Strength = 811

20% population having difficult access to District / Sub-District Hospitals

Doctor Population ratio of 1:1973 against the recommended 1:1000 by WHO

Lack of digital infrastructure in terms of connectivity among PHC’s, sub-district and district hospitals
Easy Access to Healthcare

**Ladakh**

Next

**DEVELOPMENT STRATEGIES**

1. Expanding the medical resource base in the region

2. Door-step medical services to remote population

3. Providing high level healthcare facilities within one hour of reach

4. Creating digital connectivity in healthcare to promote social distancing

5. Developing advanced healthcare infrastructure with best quality services

**SECTOR POTENTIAL / GROWTH OPPORTUNITY**

- District Hospital
- Sub-District Hospital
- Service Area (50 Km) of District Hospital
- Service Area (50 Km) of Sub-District Hospital
- Proposed location for Sub-District Hospital
- Mobile Medical Units

Digital Transformation of Healthcare

Enhanced proximity of Health facilities
Information Technology and Digital Infrastructure
Digital Infrastructure

National Optical Fibre Network (NOFN) in Ladakh is V-SAT based, with 165 sites installed with V-SAT out of 172 targeted.

115 villages (47%) out of 243 without any data connectivity.

‘Mobi-density’ in Ladakh = 121% (i.e. 121 mobile phones per 100 population)
Digital Infrastructure

Establishment of IT Connectivity throughout Ladakh

Integrated Command and Control Centre at UT and District Level

Digitalization of Govt Depts like Health, Education, Transport etc.

Implementation of all ICT Citizen Services

Legend:
- **Digital Network Coverage in Ladakh**
- **Integrated Command and Control Centre with Traffic and Transport Management, SMART grid, SMART urban utilities, agriculture and tourism**
- **District Command and Control Centres**
- **Citizen Service Centres, sub-nodal centres for providing services to surrounding inaccessible areas and infrastructure requirements**
Ladakh in 2050
Ladakh’s Outlook in 2050

**KARGIL BLOCK:**
- Agricultural production, markets & export
- Industrial clusters for SMEs
- Major regional and intercity transportation node
- Major power producer
- District level education & healthcare facilities
- District command and control centre

**LEH BLOCK:**
- Hub of economic development and UT administration
- Agricultural production, markets & export
- Industrial clusters for SMEs
- Major regional and intercity transportation node
- District level education & healthcare facilities
- Major power producer
- District command and control centre

**ZANSKAR BLOCK:**
- Agricultural production, markets & export
- Industrial clusters for SMEs
- Major regional and intercity transportation node
- Major power producer
- District level education & healthcare facilities
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