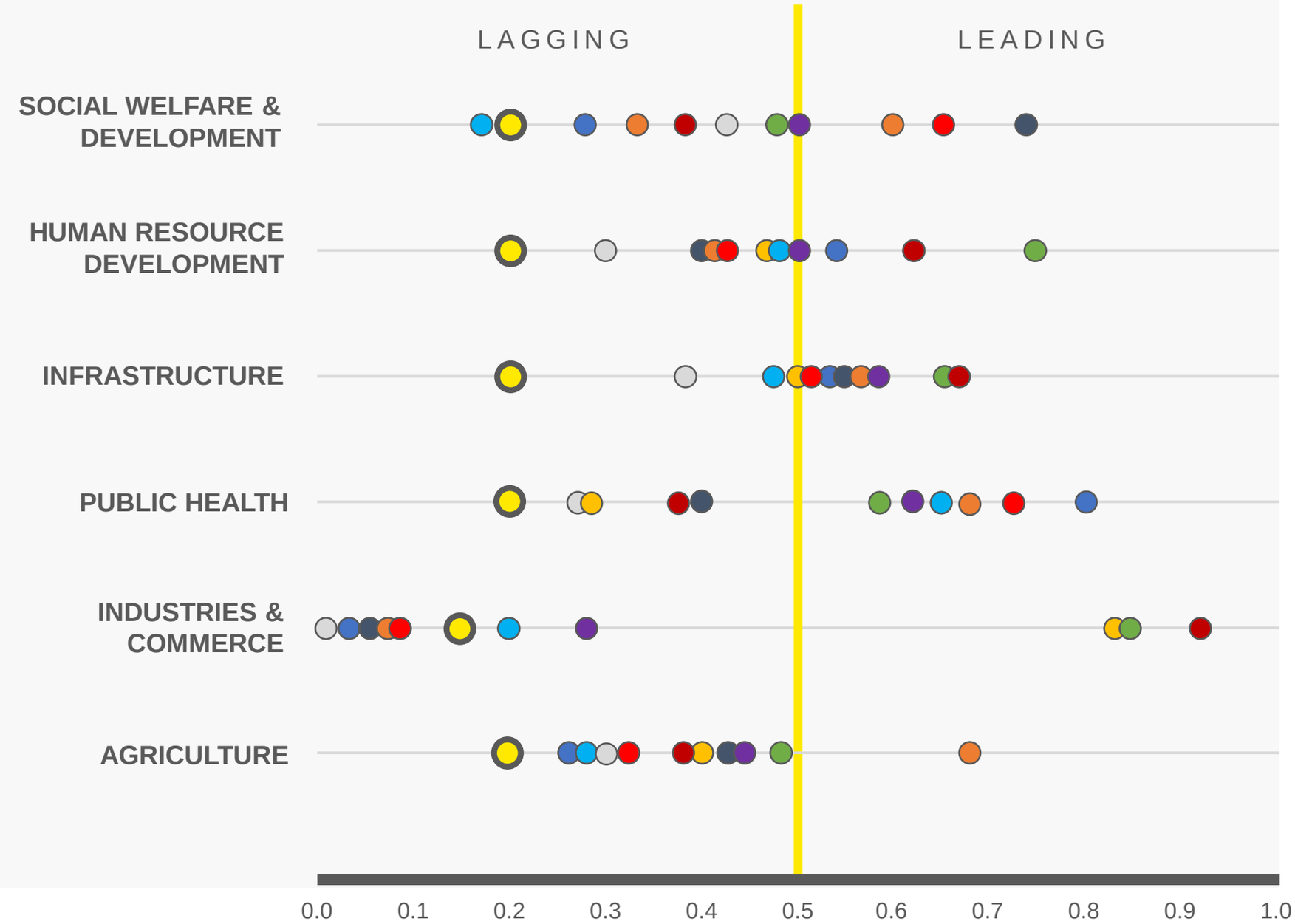
Vision 2050 for UT of Ladakh

Content

Ladakh | 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

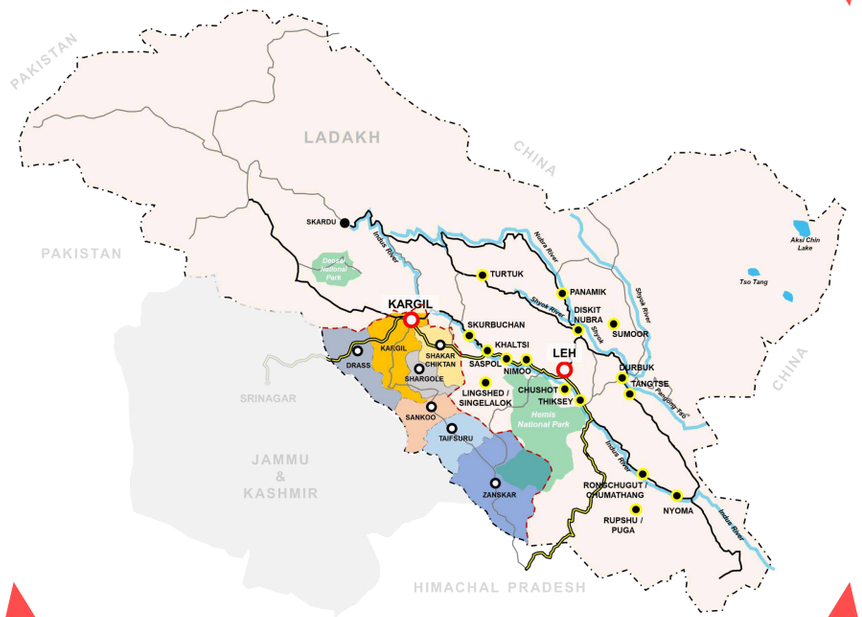
Ladakh
Now

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

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



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

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

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

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

- Localized education system
- Limited access to higher education institutes

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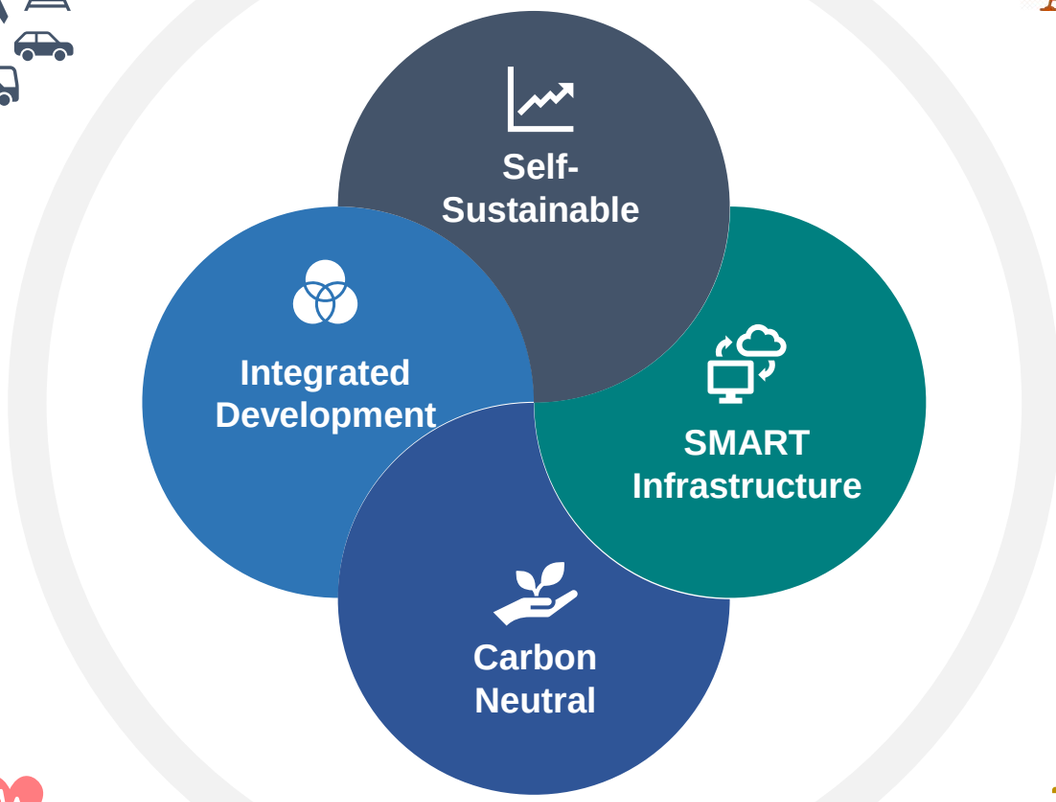
Next

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**



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

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

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

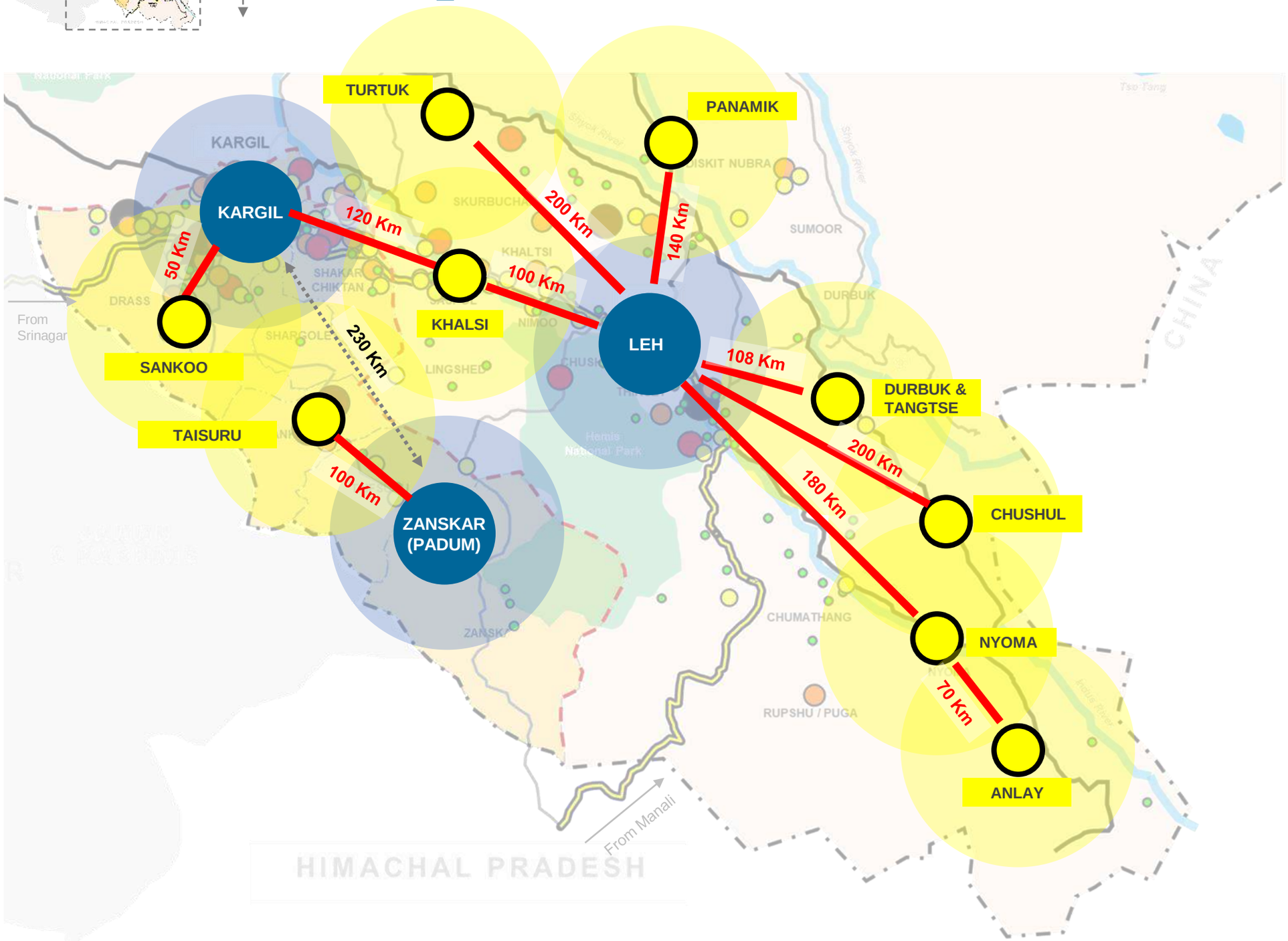
- **Access to specialized healthcare within 1 Hour**
- **Mobile medical units for on demand healthcare**

- **‘Zero Waste Ladakh’**
- **Waste to energy**

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

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

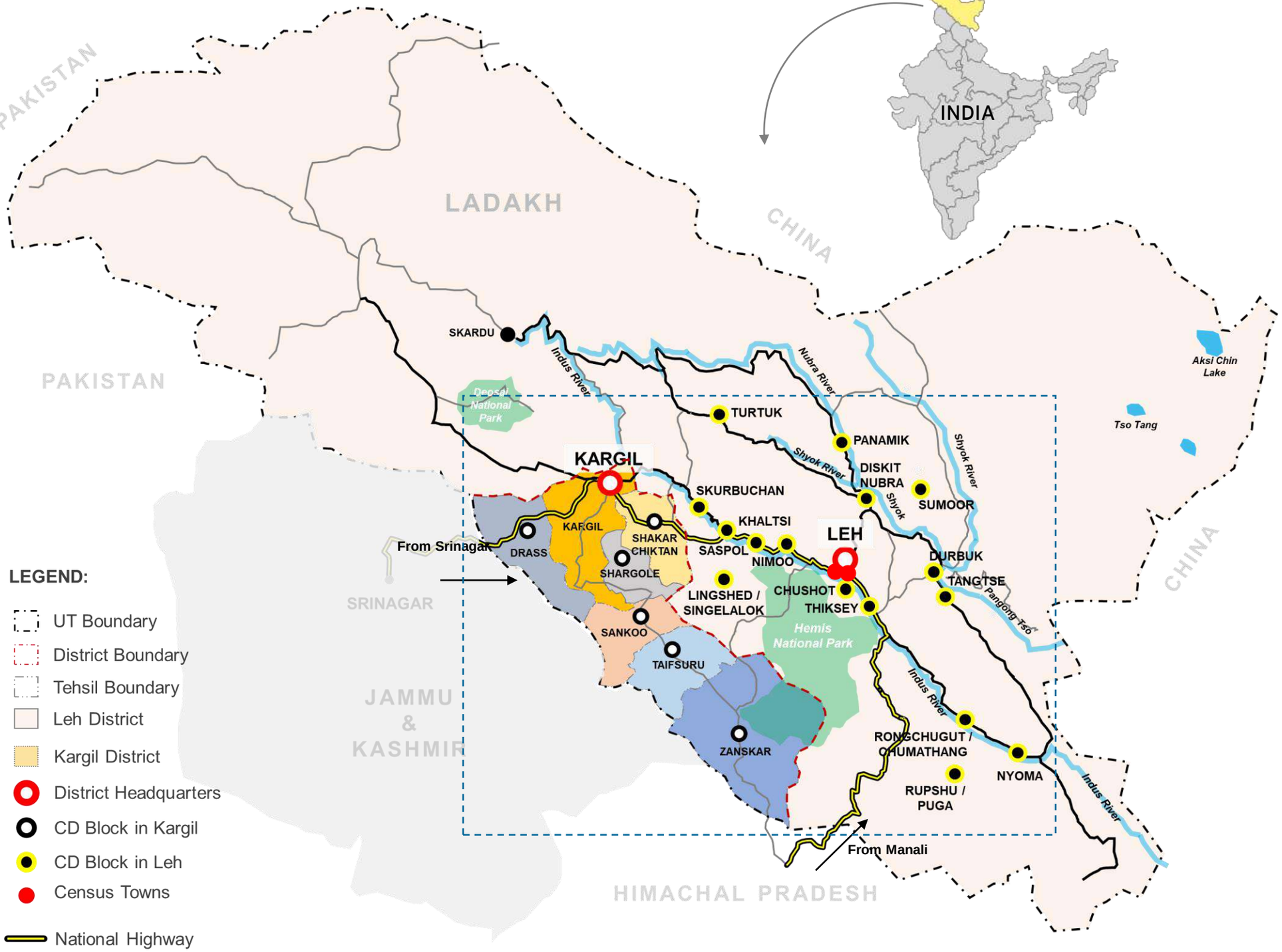
100% Accessibility & Mobility

Clusters

Decentralized Regional Development

VISION 2050

Outline



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

Ladakh

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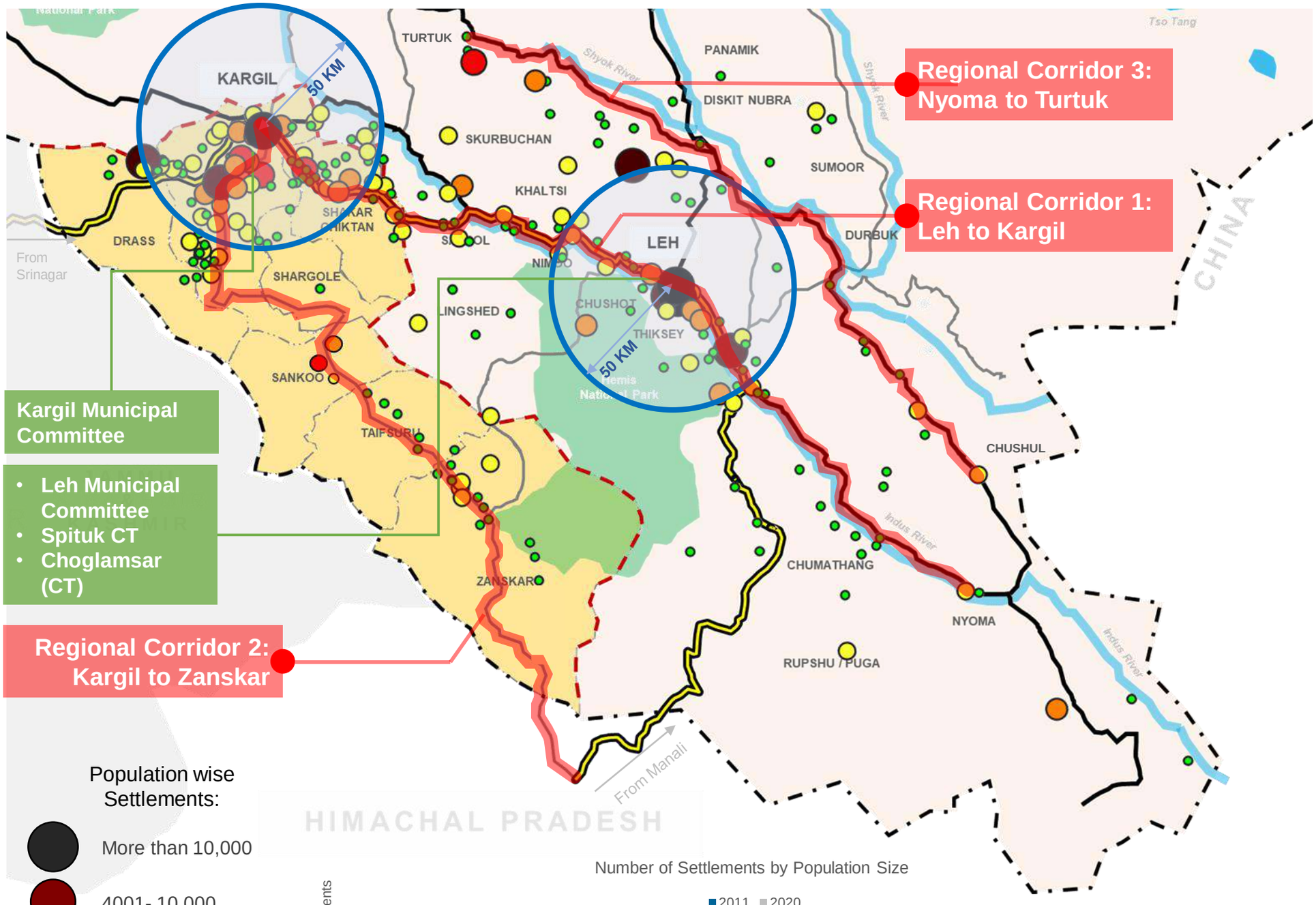
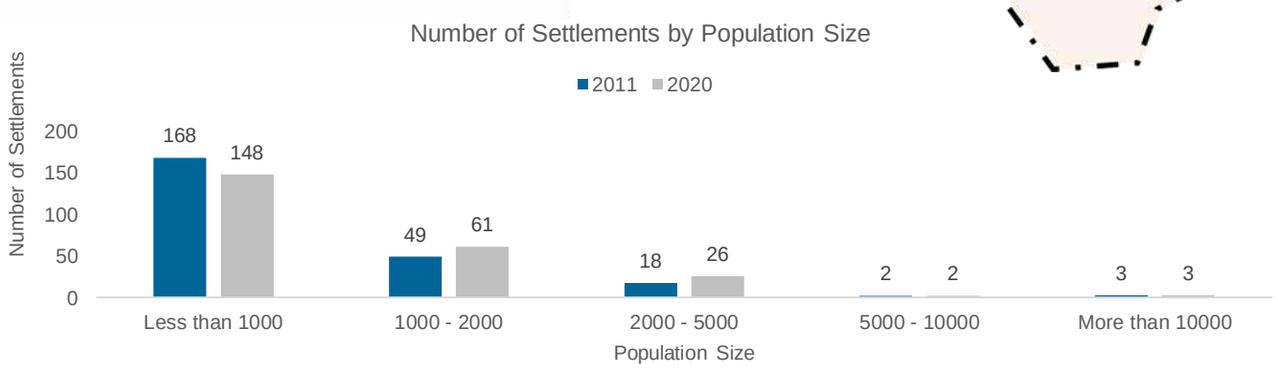
Population Distribution



Population wise Settlements:

- More than 10,000
- 4001- 10,000
- 3001- 4000
- 2001- 3000
- 1001- 2000
- Up to 1000



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

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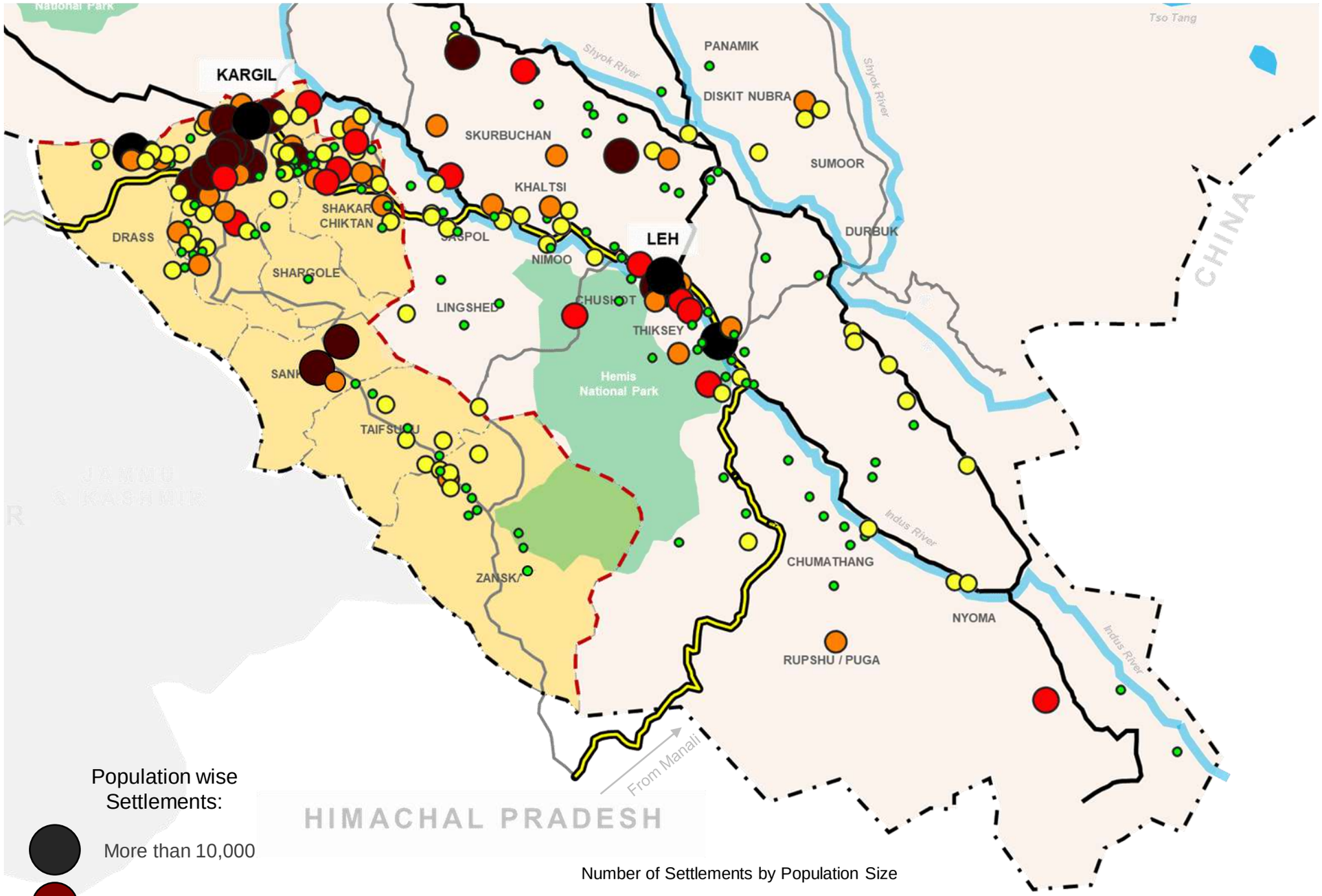
Population in Y-2050



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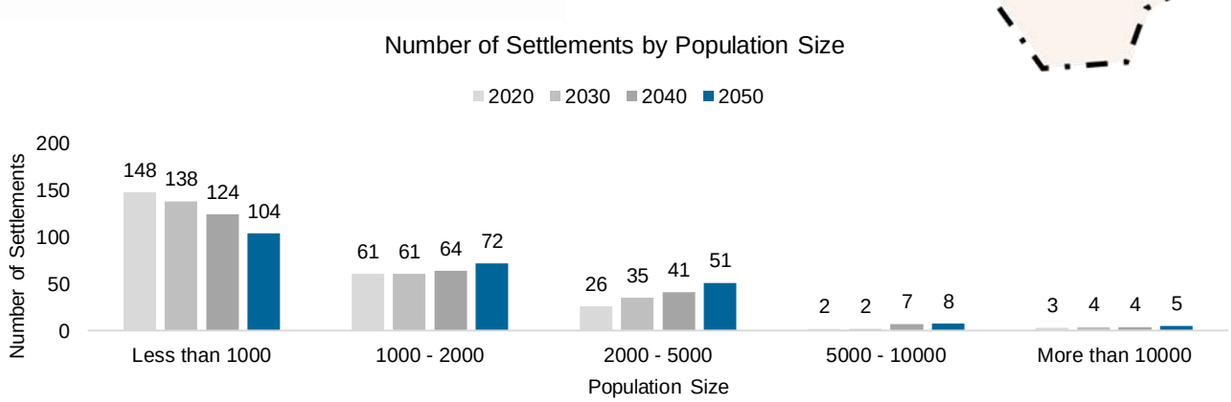


Population is expected to double up by 2050
(~ 5 Lakh)

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

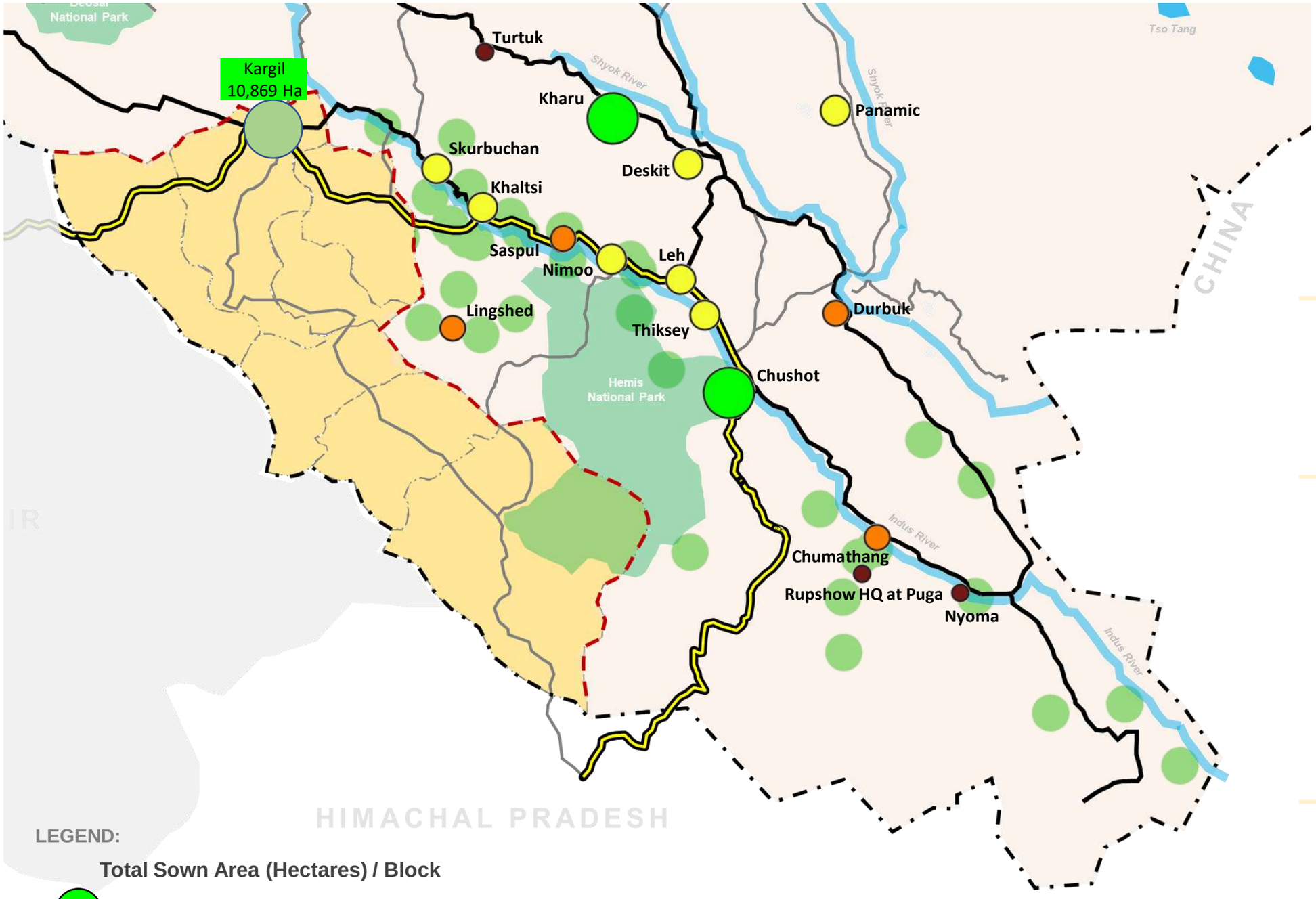
1

Economy – Agriculture, Industries & Tourism

1.1

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

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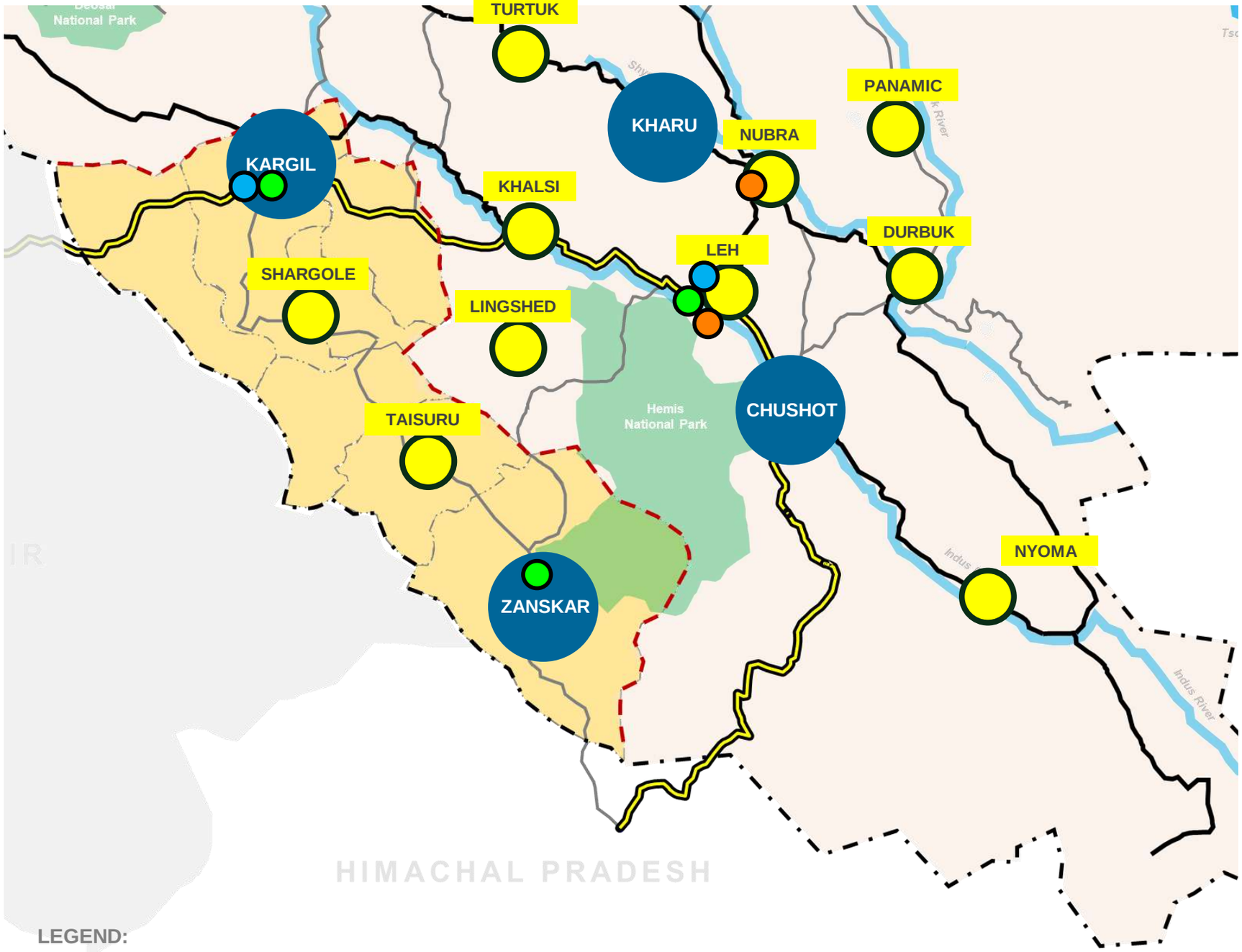
Agriculture and Horticulture



LEGEND:

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

- Greenhouse
- Controlled Cultivation Nursery
- Skill Development Centre

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

1.2

Industries and Manufacturing

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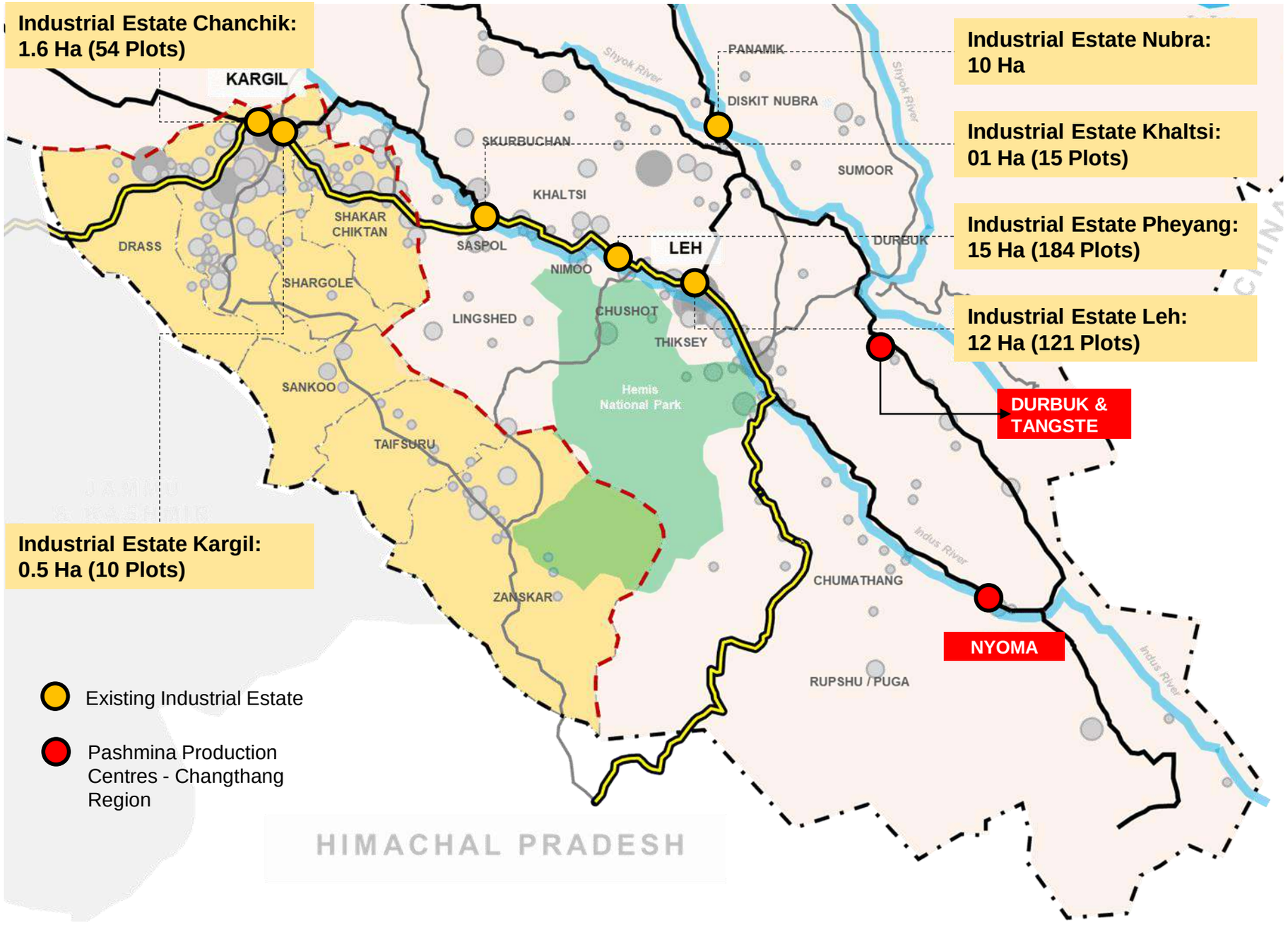
Now

Industries and Manufacturing



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)

MICRO AND SMALL SCALE INDUSTRY	Handloom	Metal based	Handicrafts and Wood Work	Repairing & Servicing	Others
SHARE OF TOTAL NO. OF UNITS	12%	19%	13%	14%	42%

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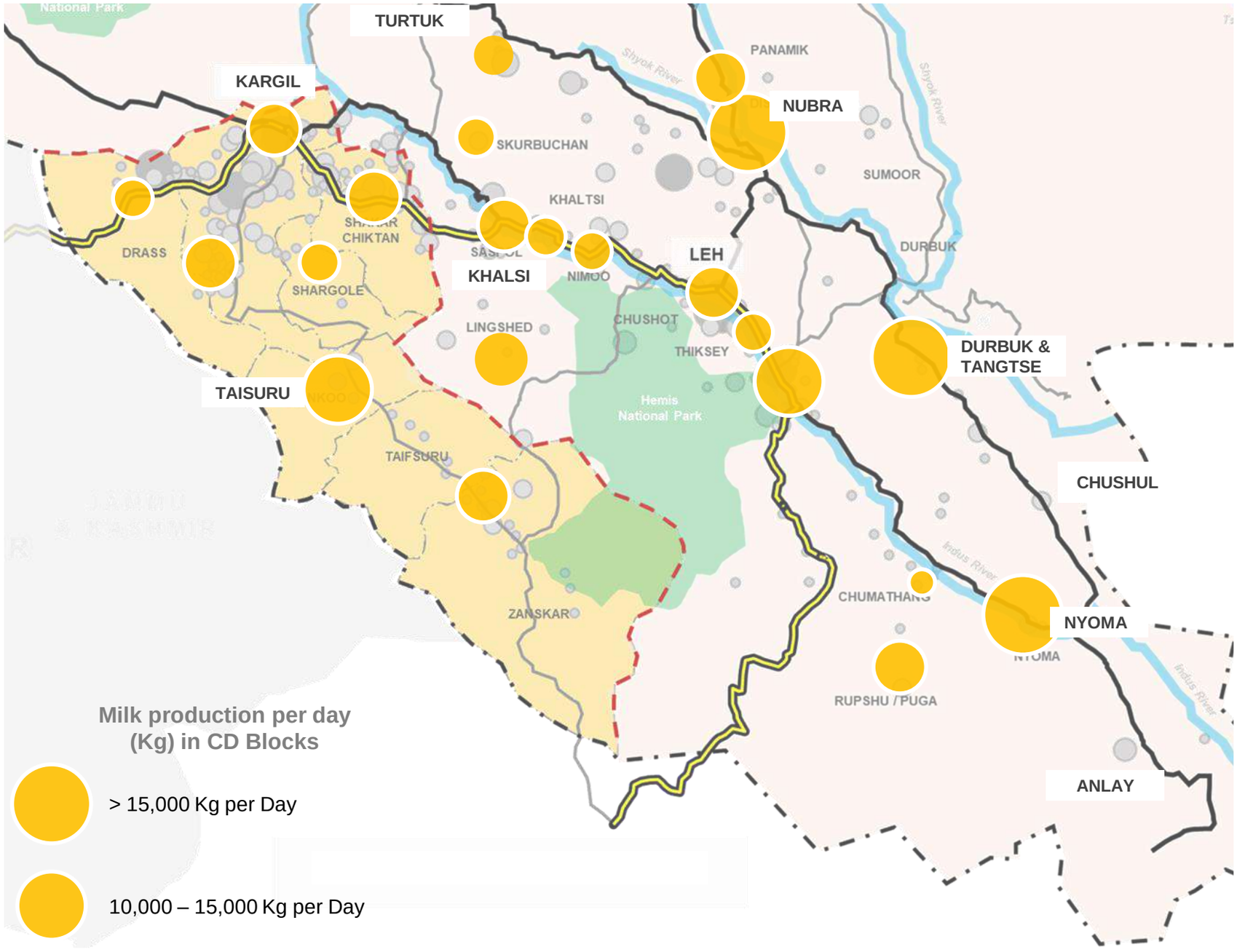
Industries and Manufacturing



MILK AND DAIRY SECTOR

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)

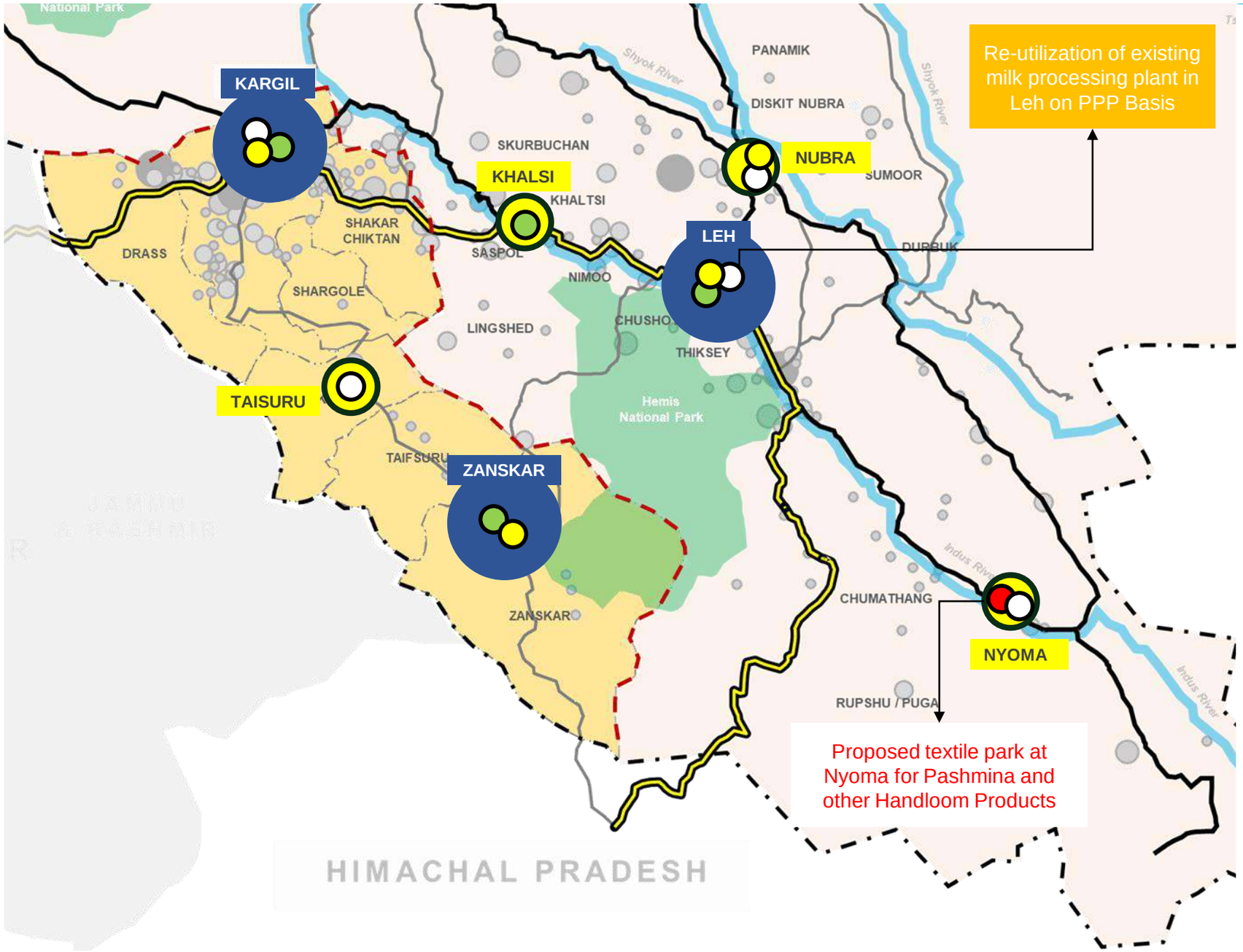
Estimated INR 250 Crore+ industry but has not developed in an organised manner to utilize its full potential

~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

Ladakh
Next

Industries and Manufacturing



- Proposed locations for Food Processing Parks
- Proposed areas for development of Handicraft Markets
- Proposed textile park for Pashmina and other Handloom Products
- Proposed locations for development of Milk Processing Plants

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

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Now

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

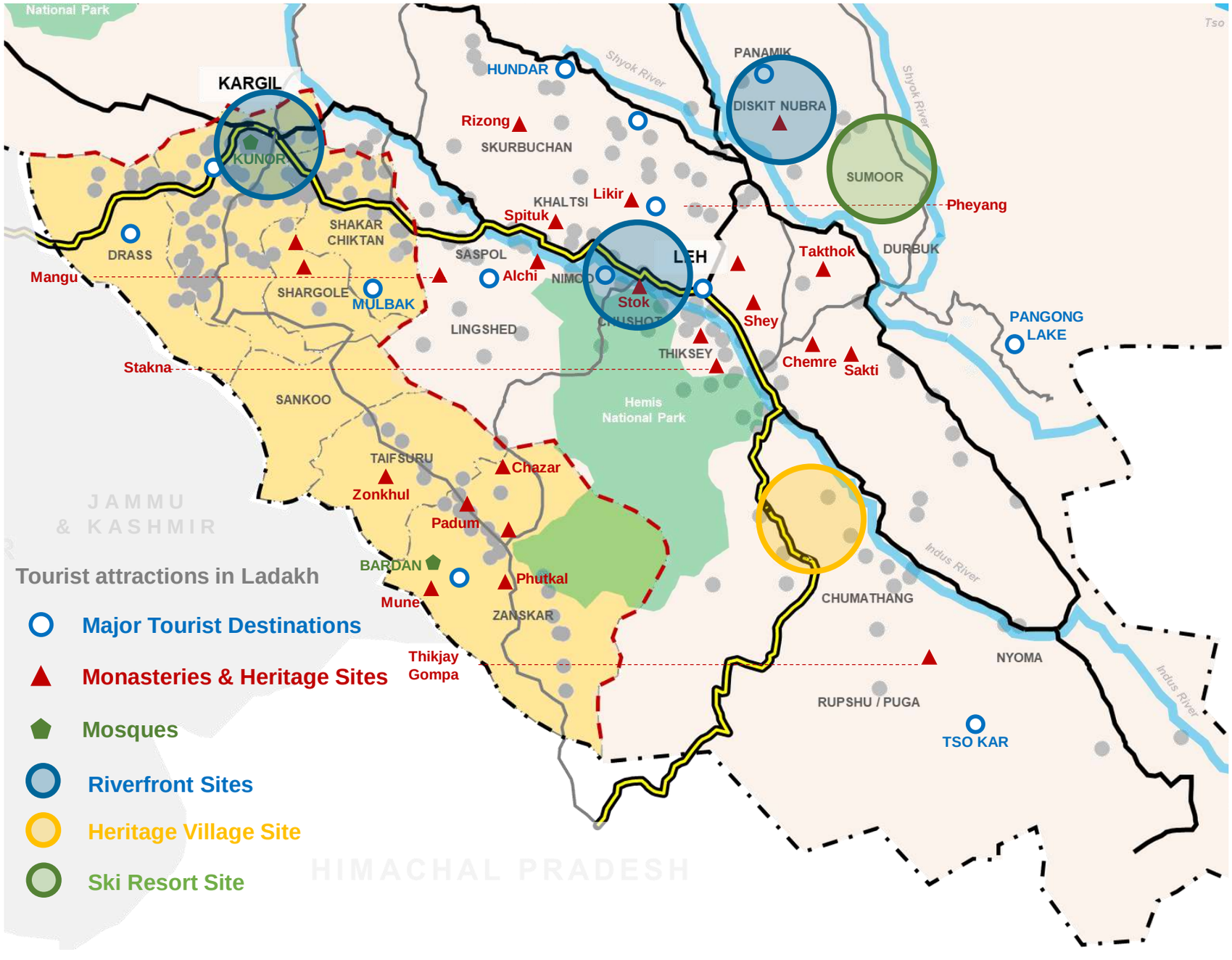
Limited Branding and Media Reach

Tourist attractions in Ladakh

- Major Tourist Destinations
- Monasteries & Heritage Sites
- Mosques

Ladakh
Next

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

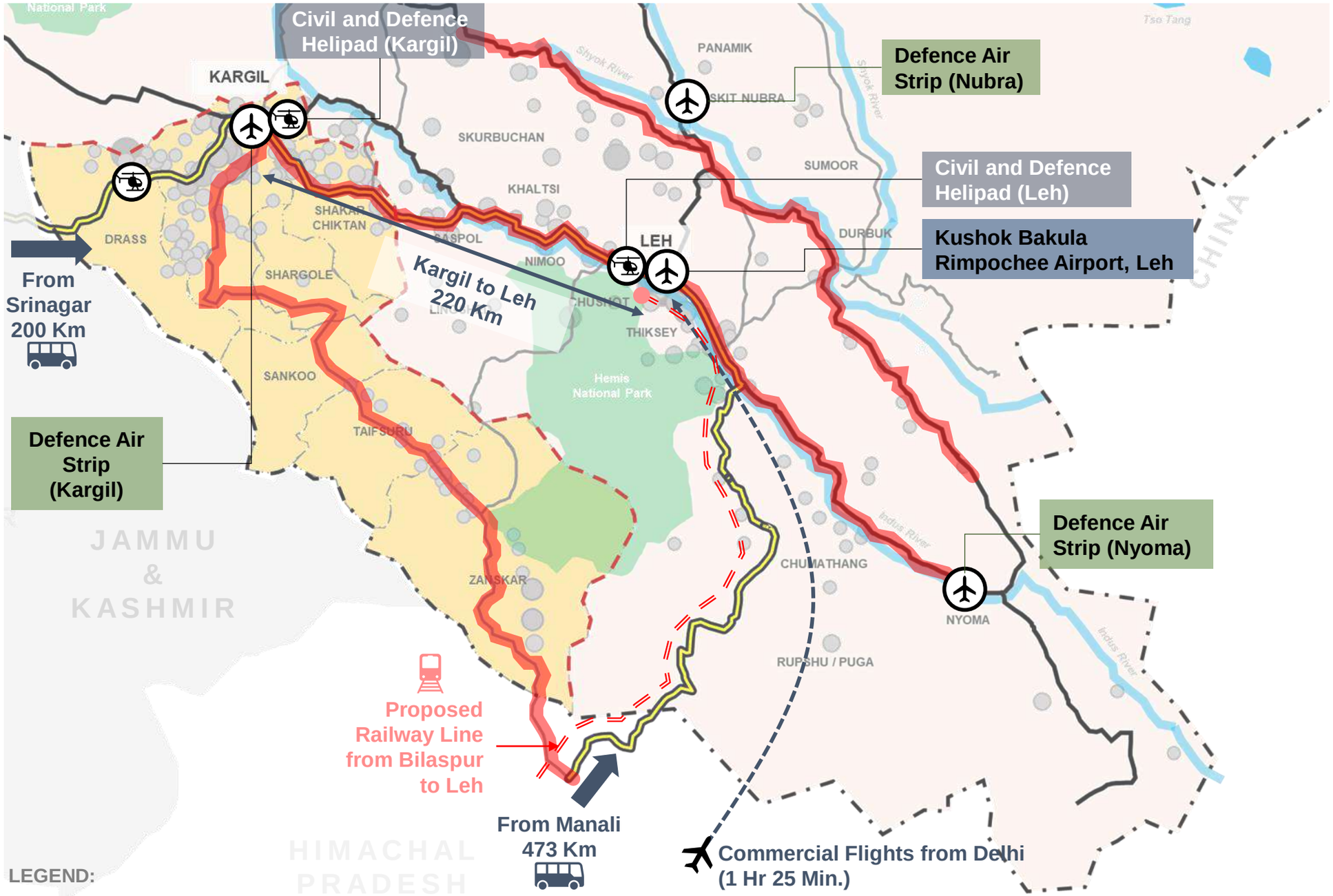
2

Connectivity and Transport

Ladakh

Now

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

Ladakh

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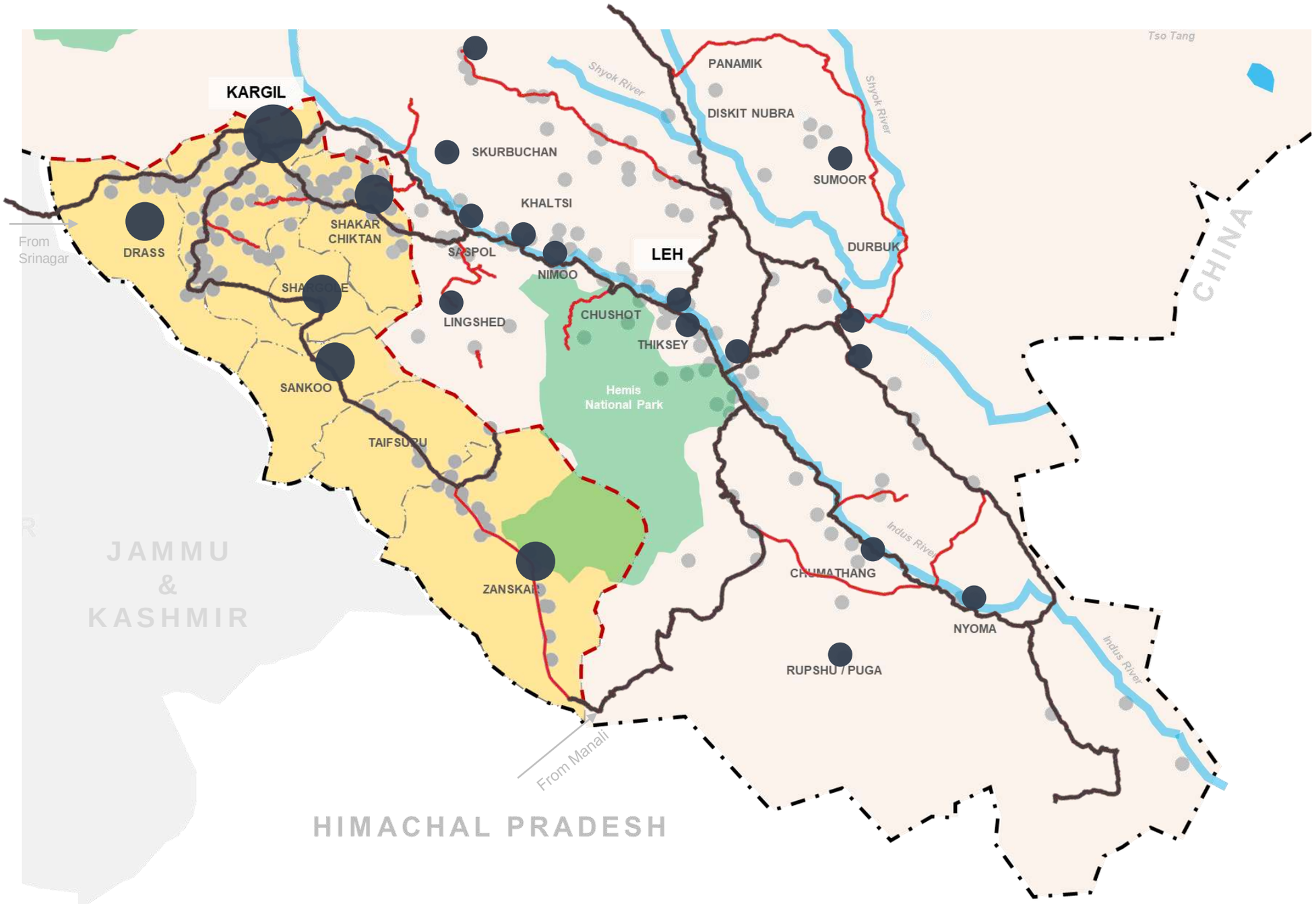
Roads, Highways and Accessibility



LEGEND:

- Major Access road (Surfaced)
- Major Access road (Unsurfaced)
- Settlements

Length of Unsurfaced Roads in CD Blocks

- 0 – 50 Km
- 50 – 100 Km
- > 100 Km

~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

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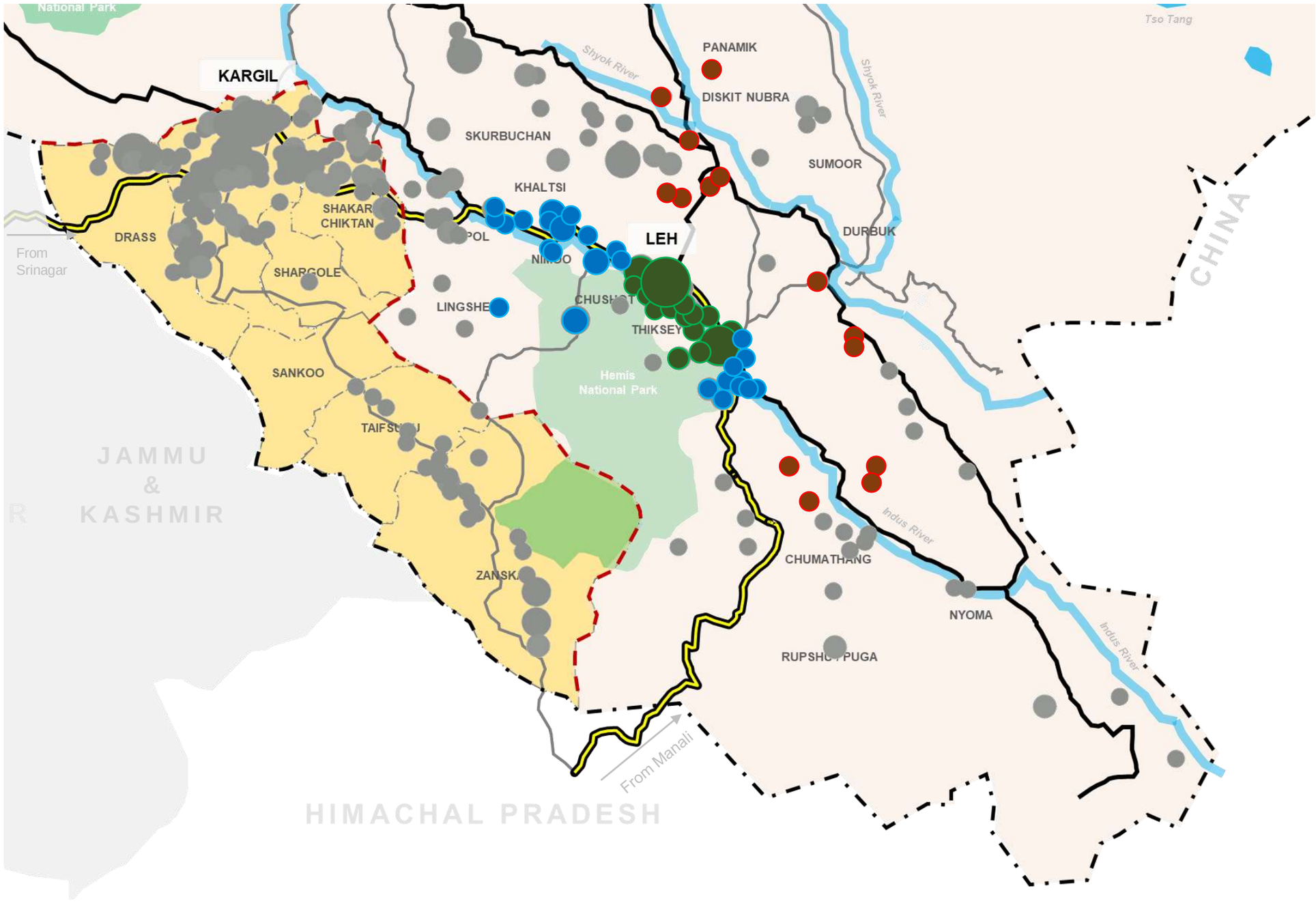
Public Transport



LEGEND:

Public Transport Frequency

- 5-60 Mins
- Once Daily
- Once Weekly

- National Highway
- Major Roads
- Other Roads
- Settlements

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

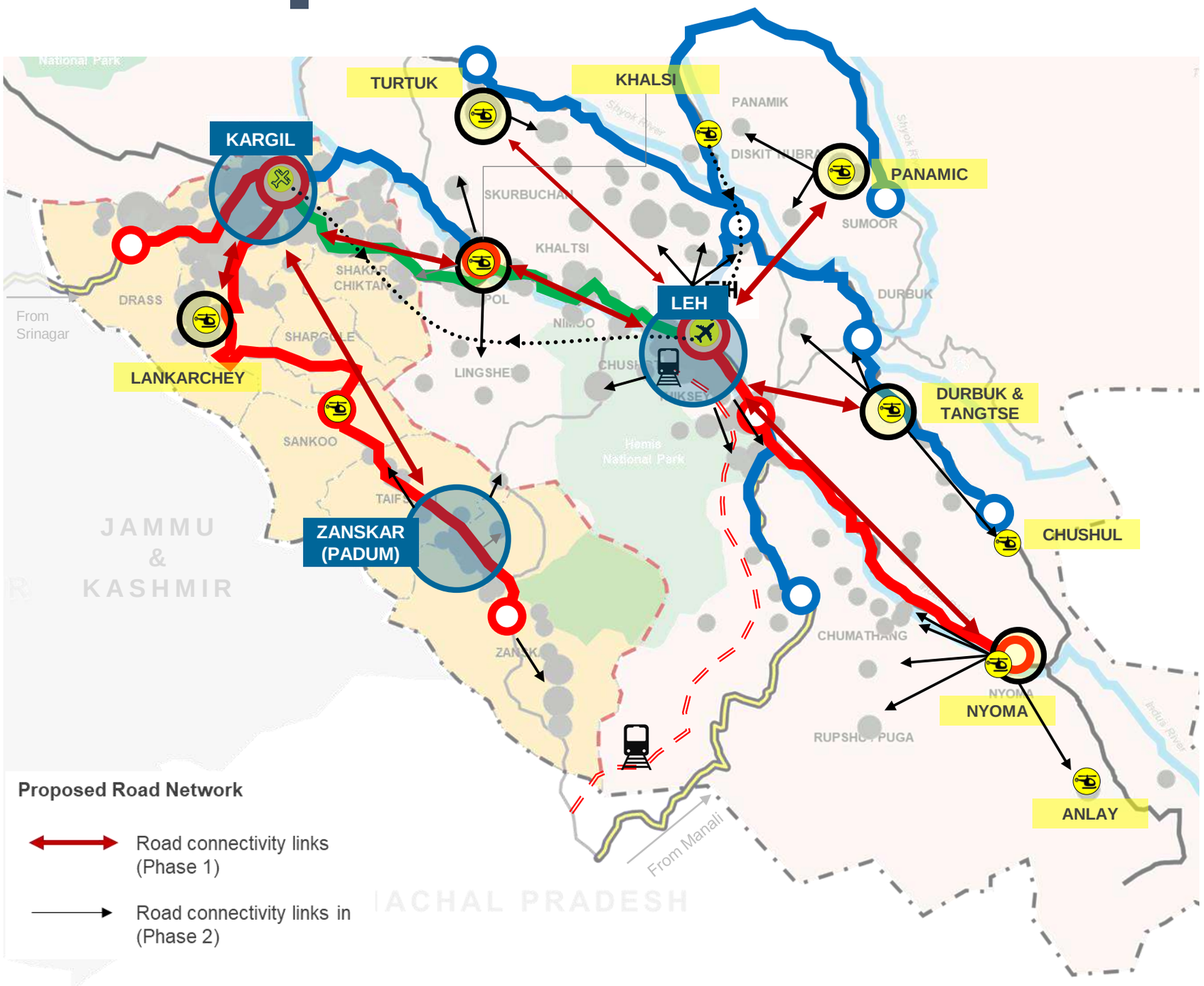
Only 2.2% share of Buses in total registered vehicles

Lack of public transport infrastructure – terminals, depots, stop/shelters and other passenger and staff facilities

Ladakh

Next

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

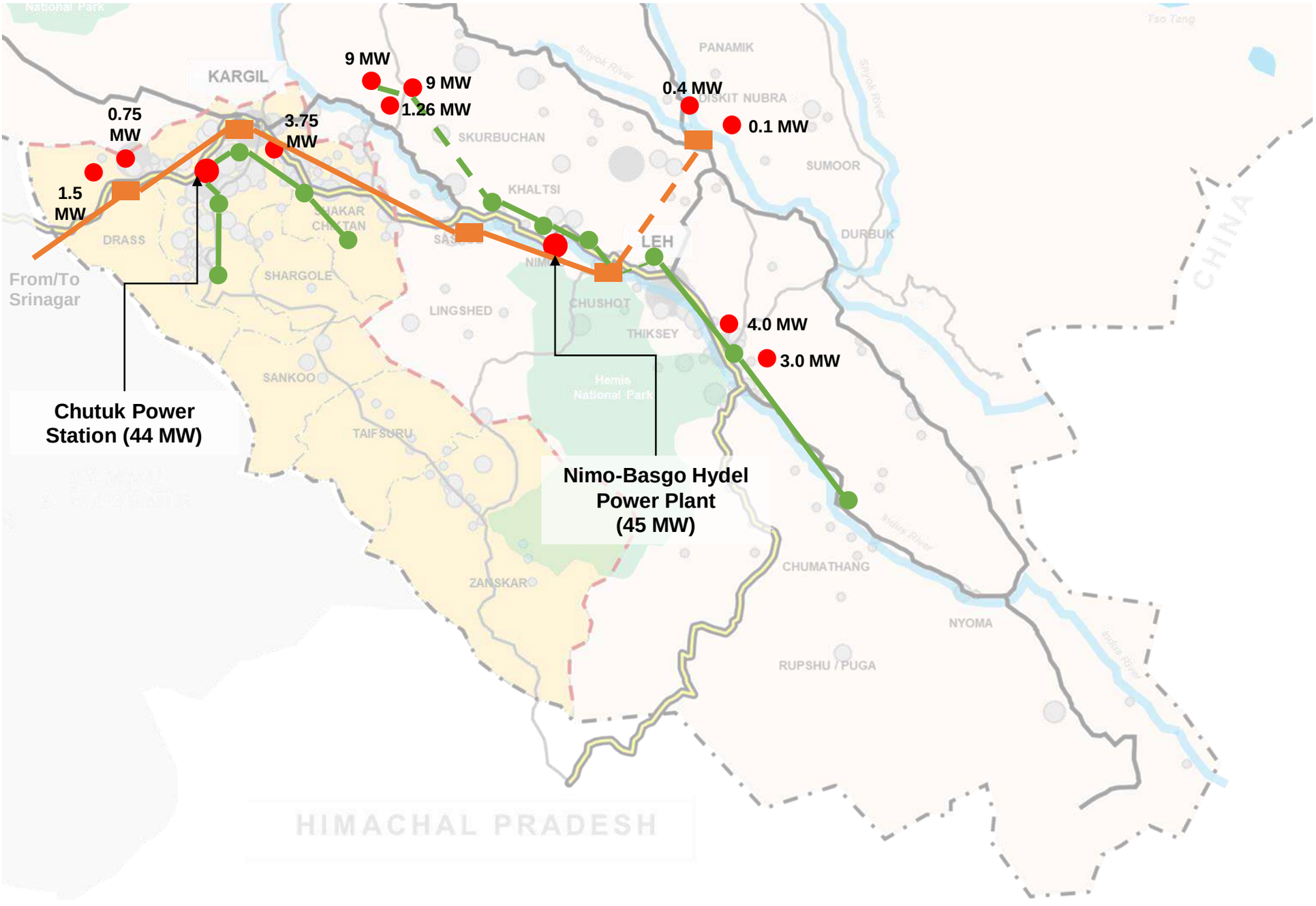
3

Power and Energy

Ladakh

Now

Electric Power Supply



LEGEND:

- Power Generation Source
- Grid Sub-Station
- 66 kV Sub-Station
- 220 kV Network
- 66 kV Network
- Existing Network
- Proposed Network

90% Household Electrification in Ladakh

~140 MW Installed Generation Capacity

19% Diesel Power
- 72% Hydel Power
- 19% Diesel Power
- 9% Solar + Hydro Mix

Only 74% utilization of Installed Capacity
(i.e. 105 MW)

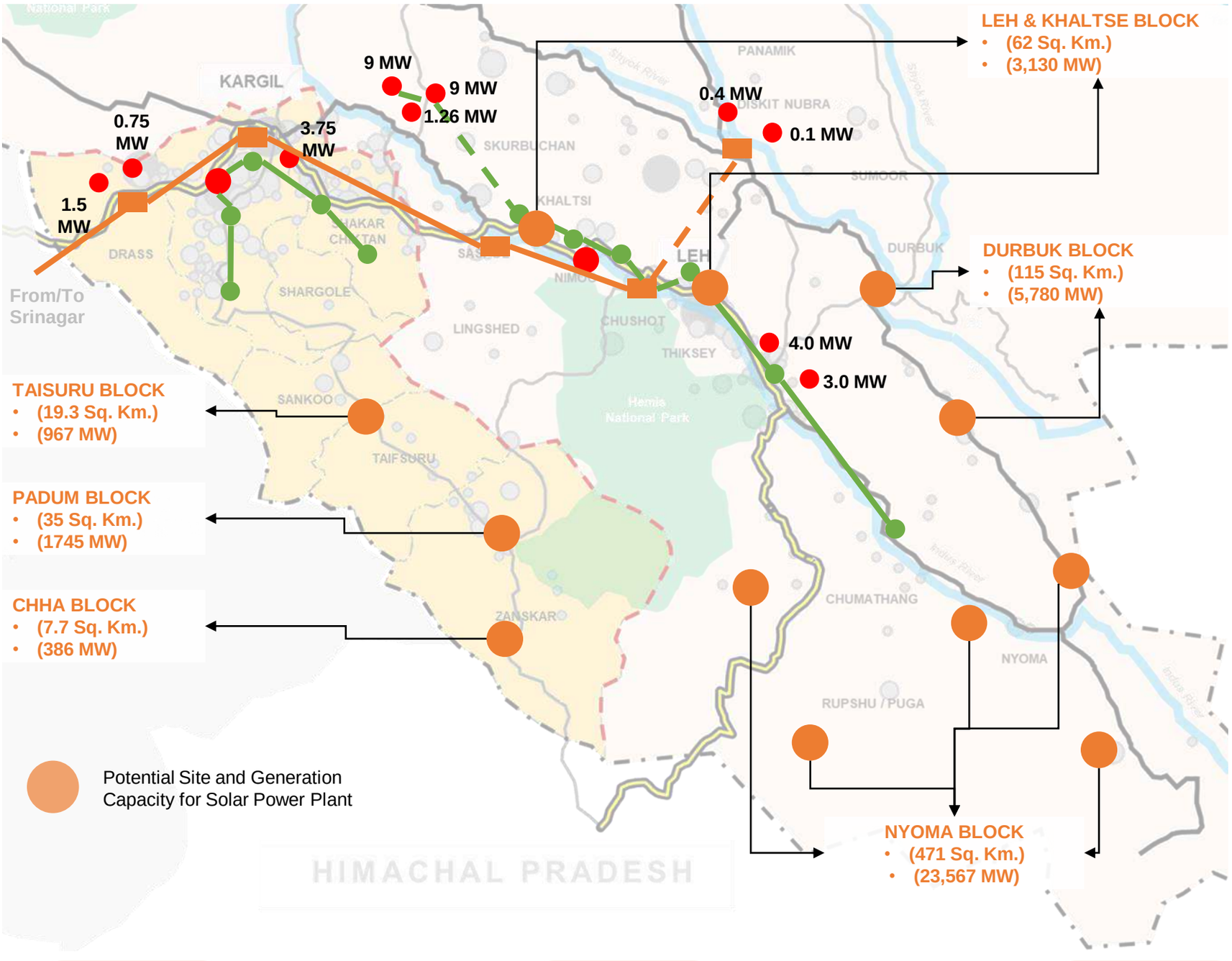
~ 25% Transmission & Distribution Losses

~ 64% Energy Deficit in Winter
- Demand: ~50 MW
- Supply: ~18 MW

~15 Hours of power supply per day

Ladakh
Next

Electric Power Supply



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

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

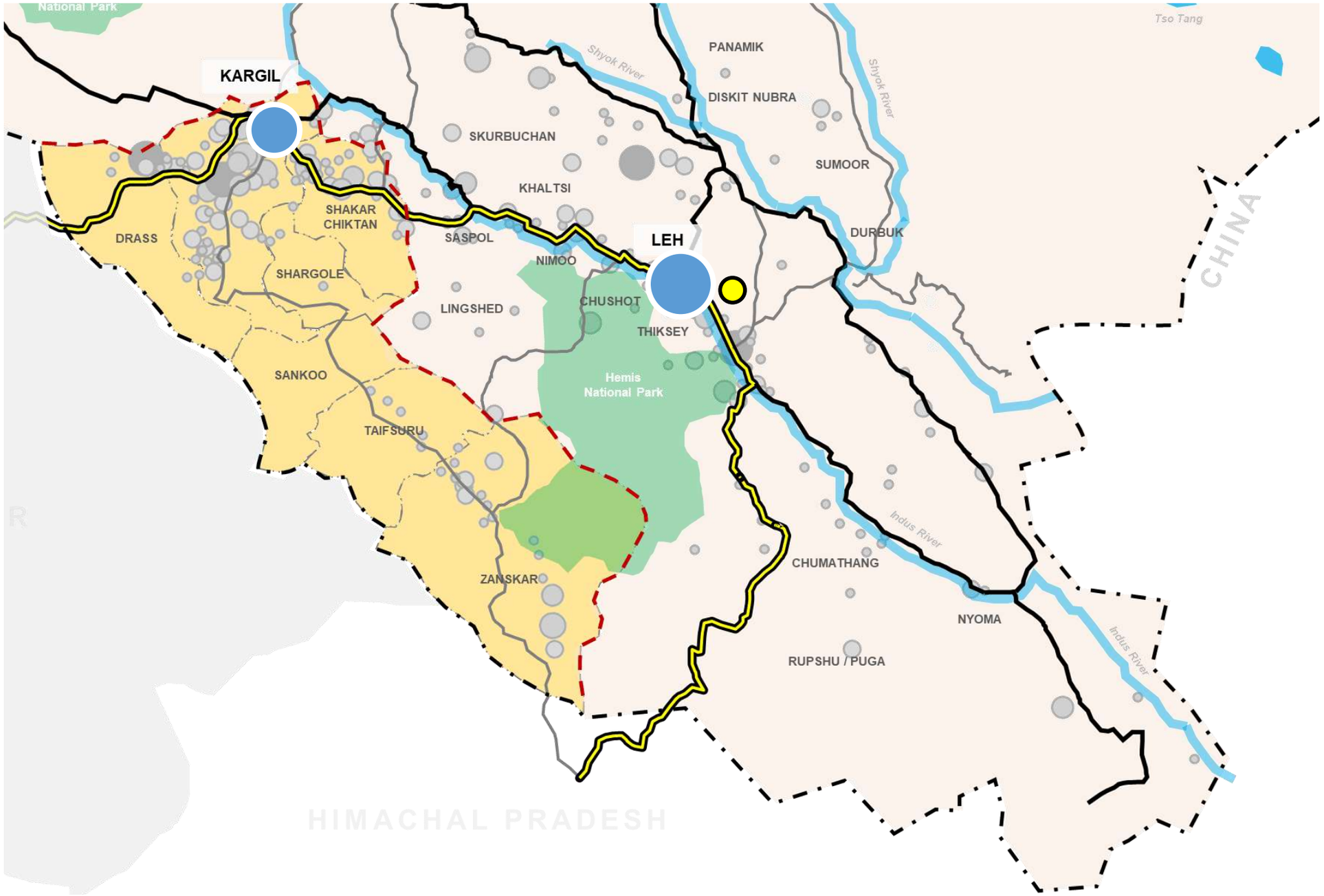
Major source of revenue generation for UT

4

Water Supply and Waste Water Management

Ladakh
Now

Water Supply and Waste Water Management



WATER SUPPLY

- 1269 Households with FHTC in Leh City, out of 15,973 Households
- 168 Households with FHTC in Kargil City, out of 17992 Households

WASTE WATER

- 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

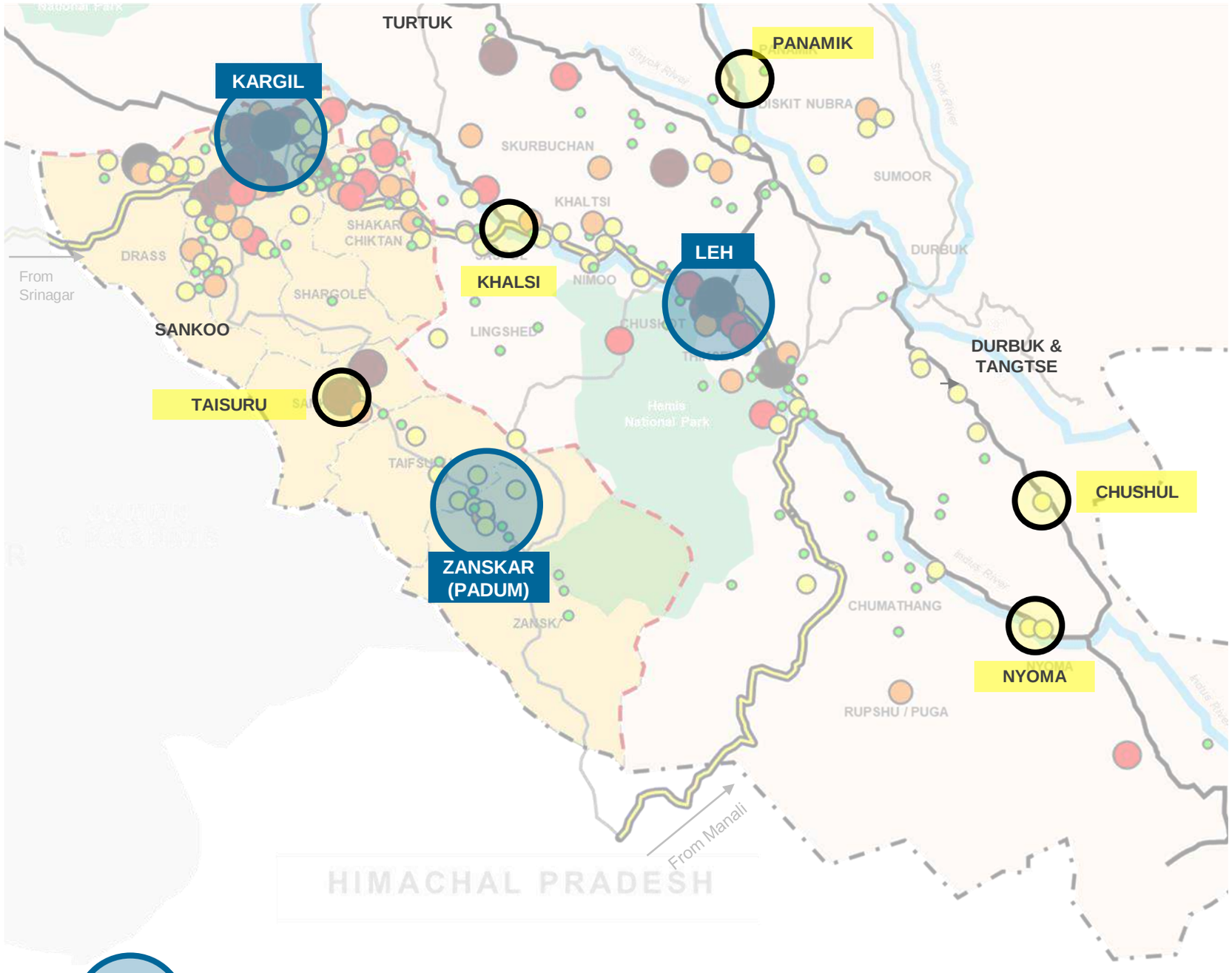
Only 1 Faecal Sludge Treatment Plant (FSTP) in Ladakh for the city of Leh

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

**FHTC – Functional Household Tap Water Connection*

Ladakh
Next

Water Supply and Waste Water Management



These centres would act as treatment centres and provide concentrated urban utilities to various spokes

These centres would act as collection centres with storage and small scale treatment facilities which would also supplement the urban utility centres

DEVELOPMENT STRATEGIES

1| Large scale harvesting and storing of winter water which can be used during peak demand in summers

2| State Level accredited water testing laboratories for water quality testing

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

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

5| Decentralised Faecal Sludge and Septage Management for waste water treatment (1 FSTP for a cluster of 20,000 Population)

5

Solid Waste Management

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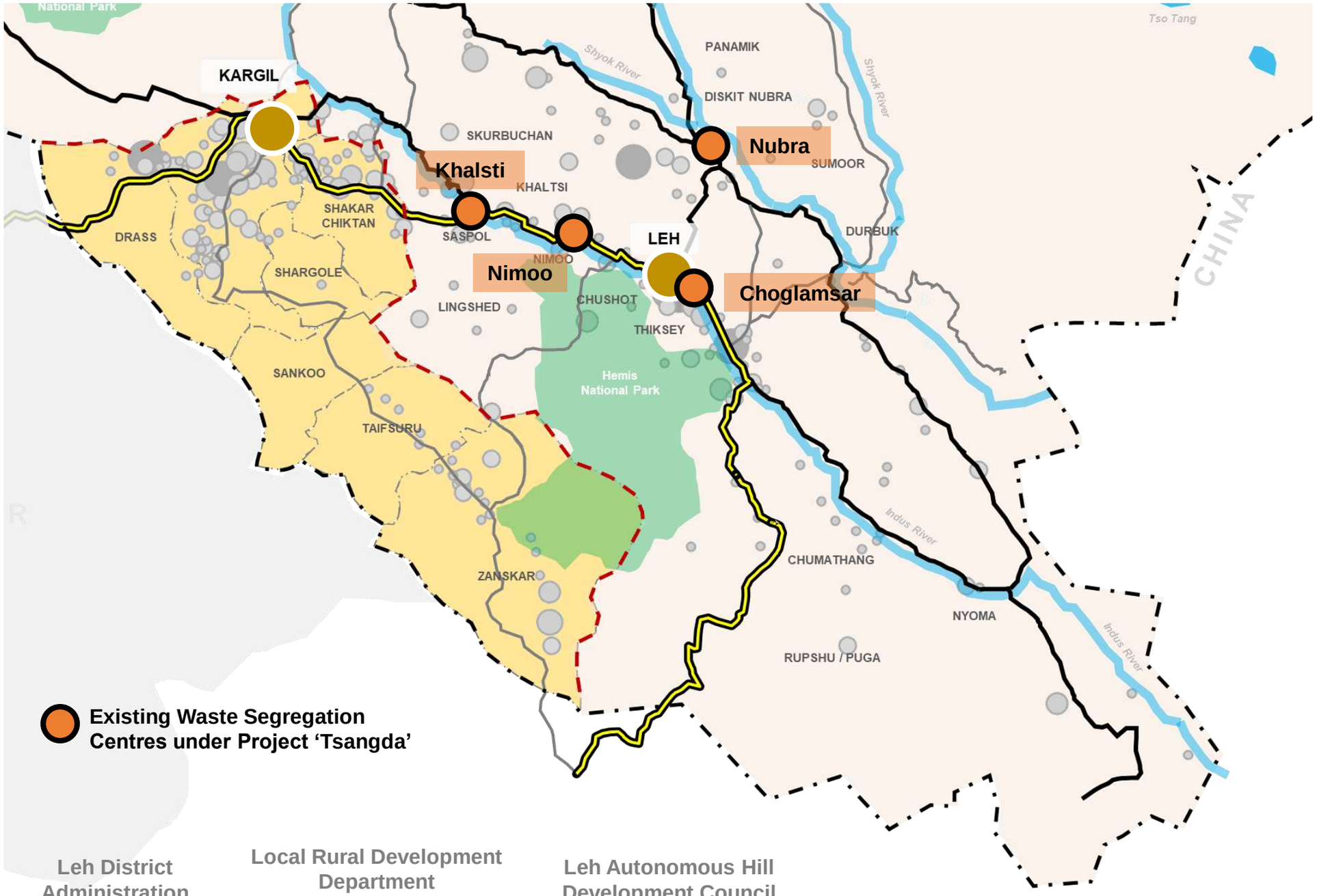
Solid Waste Management



Existing Waste Segregation Centres under Project 'Tsangda'

Leh District Administration

Local Rural Development Department

Leh Autonomous Hill Development Council

Project "Tsangda"

Dry Waste at Household / Commercial Level	Daily Collection from Households	Segregation Centres	Dry Waste is segregated into 20-22 categories for further recycling & reuse

~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)

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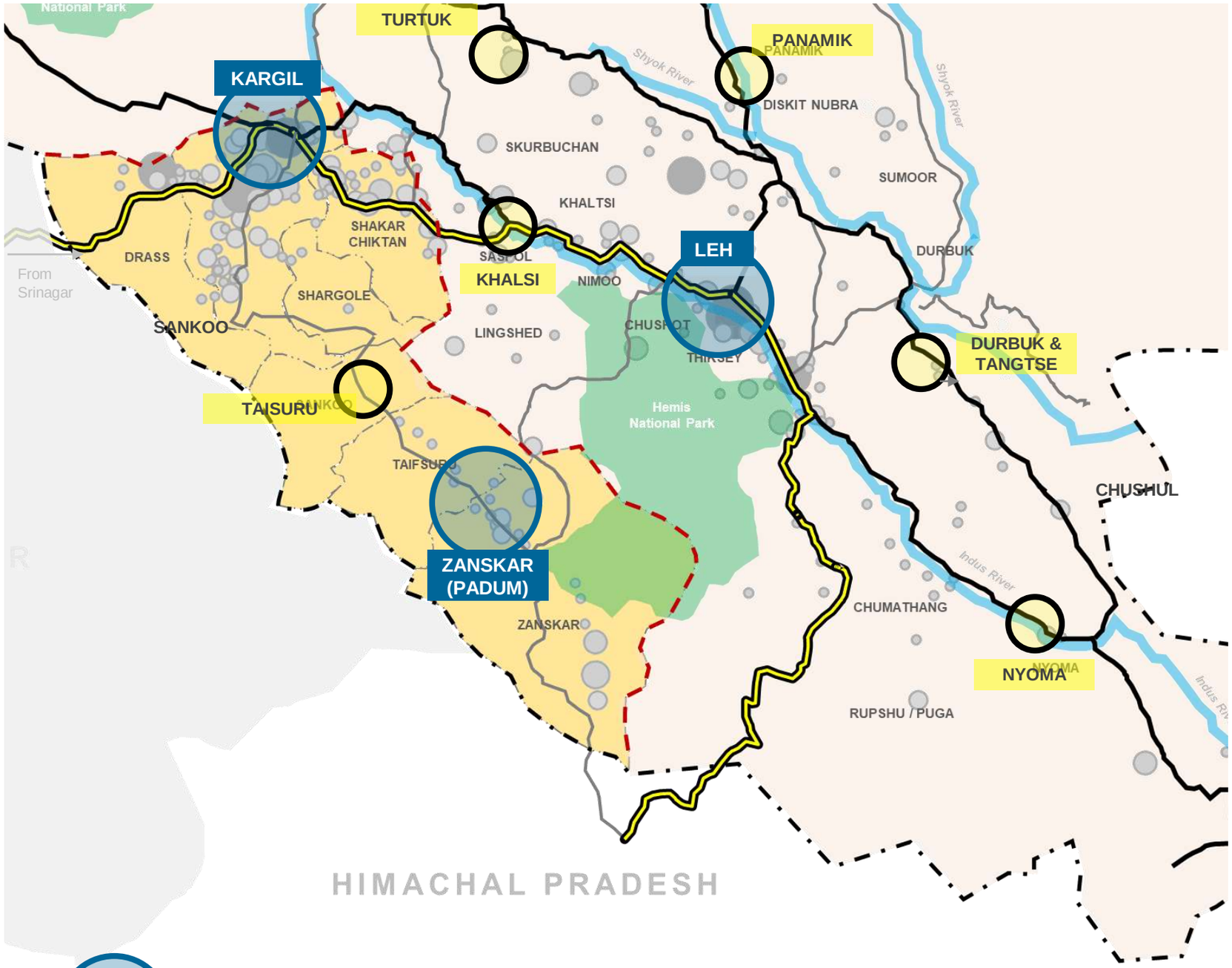
Solid Waste Management



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

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

6

Education & Skill Development

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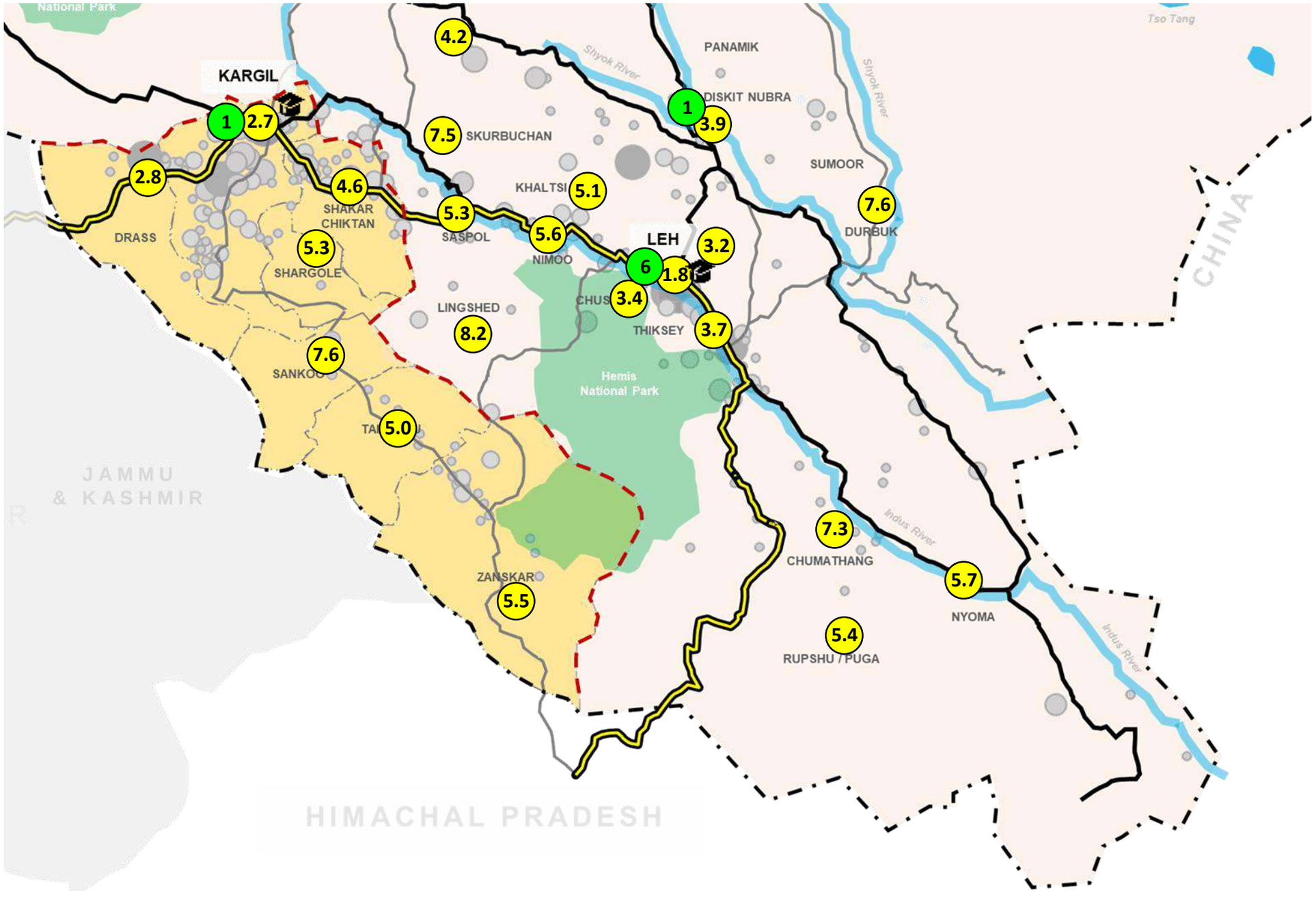
Educational Facilities in Ladakh



LEGEND:

- Number of Colleges
- Schools per 1000 Population
- Industrial Training Institute

Literacy rate in Ladakh
Leh : 77.2 %
Kargil : 71.1 %

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

Limited access to digital education in schools

Challenges of physical facilities in government schools

Only two Industrial Training Institute

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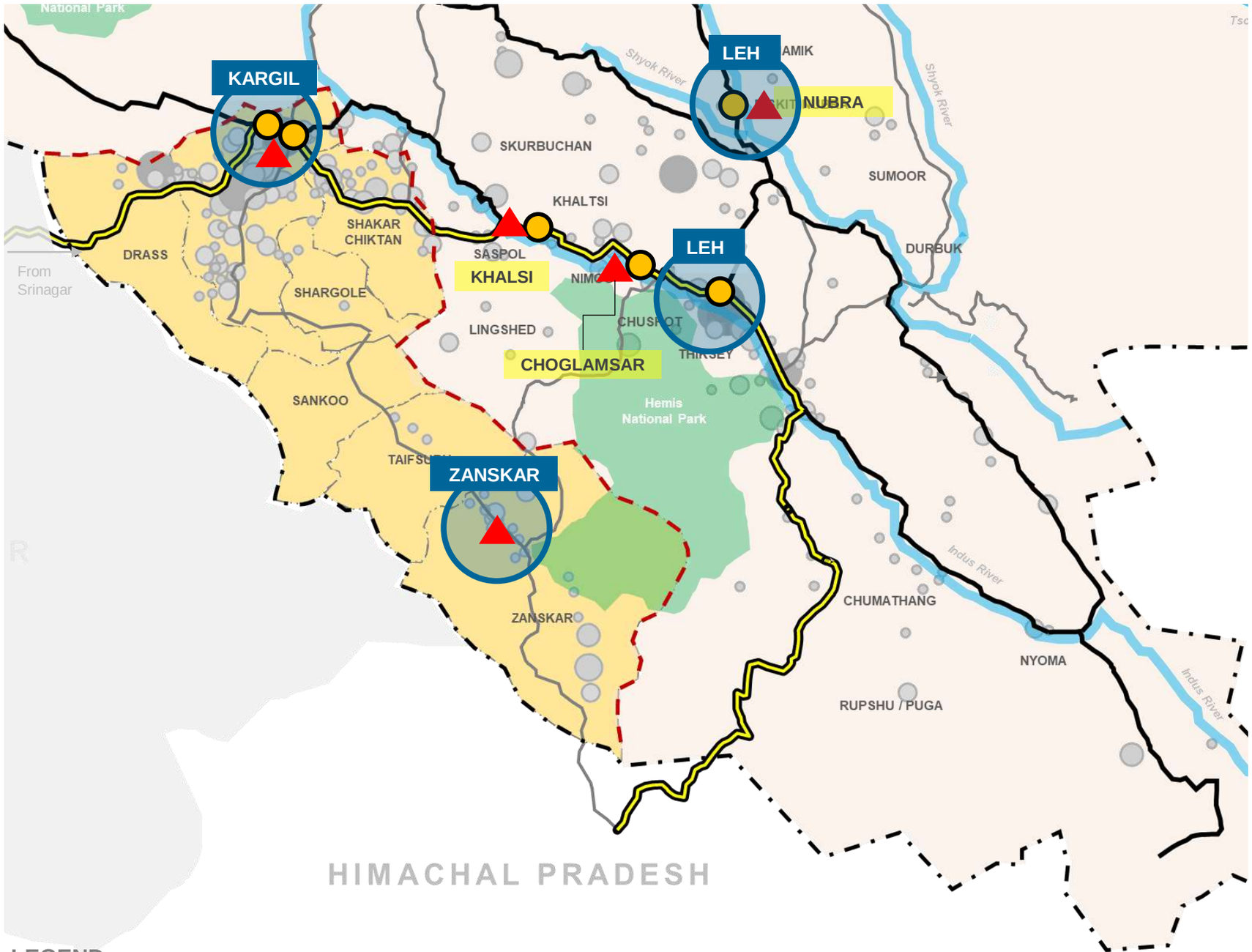
SMART Education System



LEGEND:

- Existing Industrial Estates
- Proposed Industrial Training Institute
- Proposed COEs, Research Institutes and Colleges

DEVELOPMENT STRATEGIES

1| Development of an active learning environment through SMART and digital educational platforms

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

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

4| Incentivising institutes to make ‘Teaching’ as a Secure and Attractive Career choice

Good Health & Wellbeing

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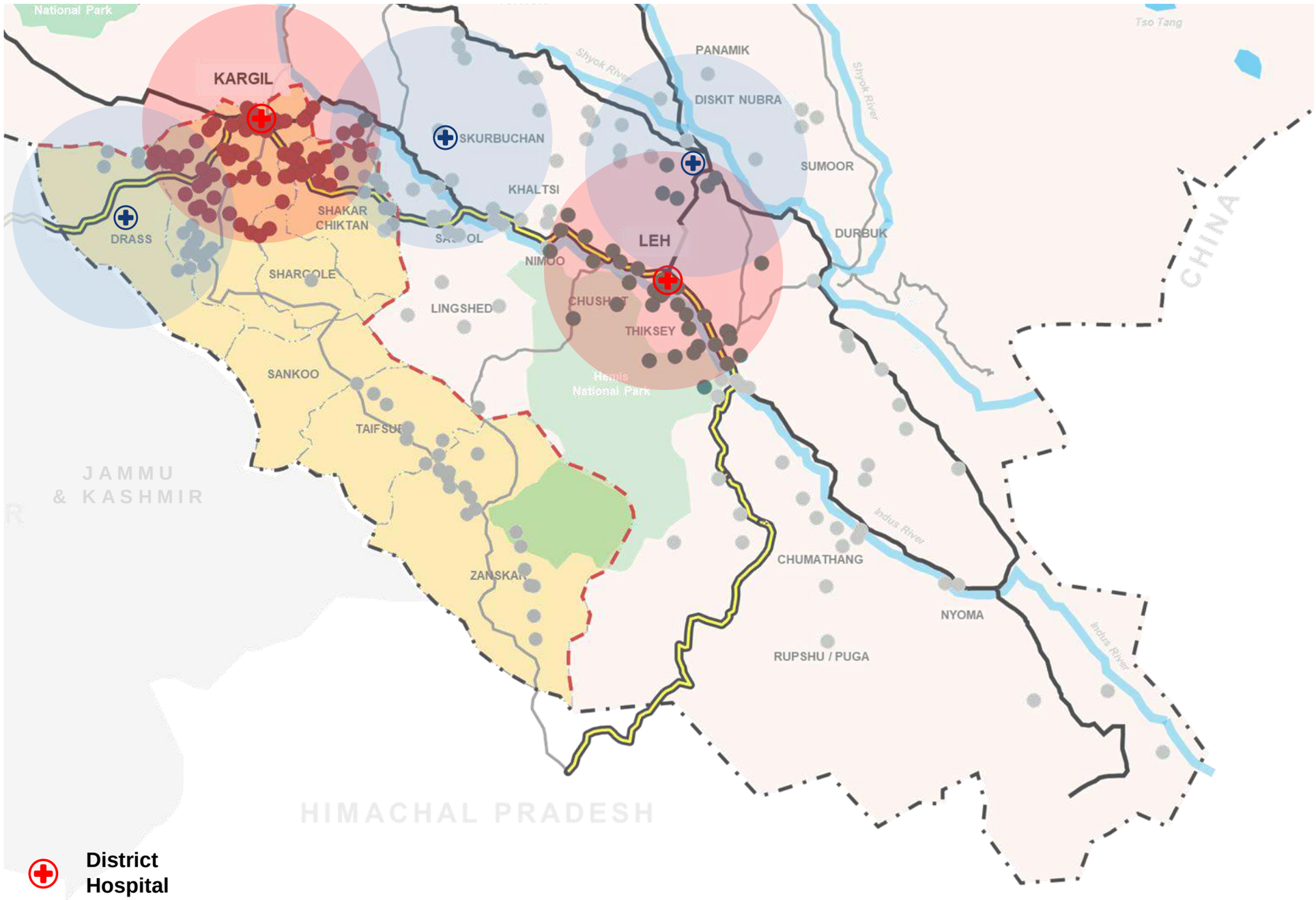
Medical and Health Facilities



District Hospital

Sub-District Hospital

Service Area (50 Km) of District Hospital

Service Area (50 Km) of Sub-District Hospital

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

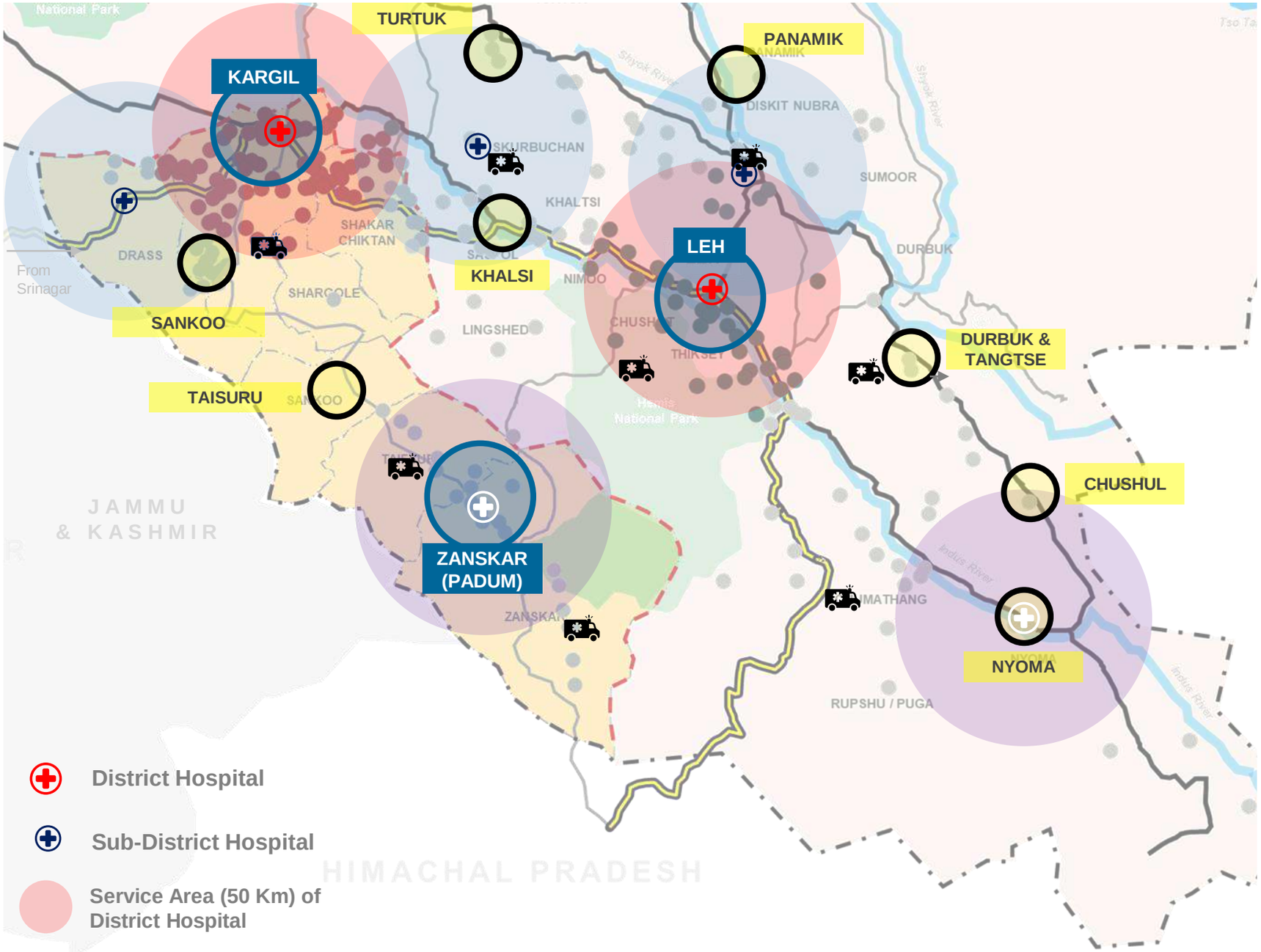
20% population having difficult access to District / Sub-District Hospitals

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

Ladakh
Next

Easy Access to Healthcare



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

Digital Transformation of Healthcare

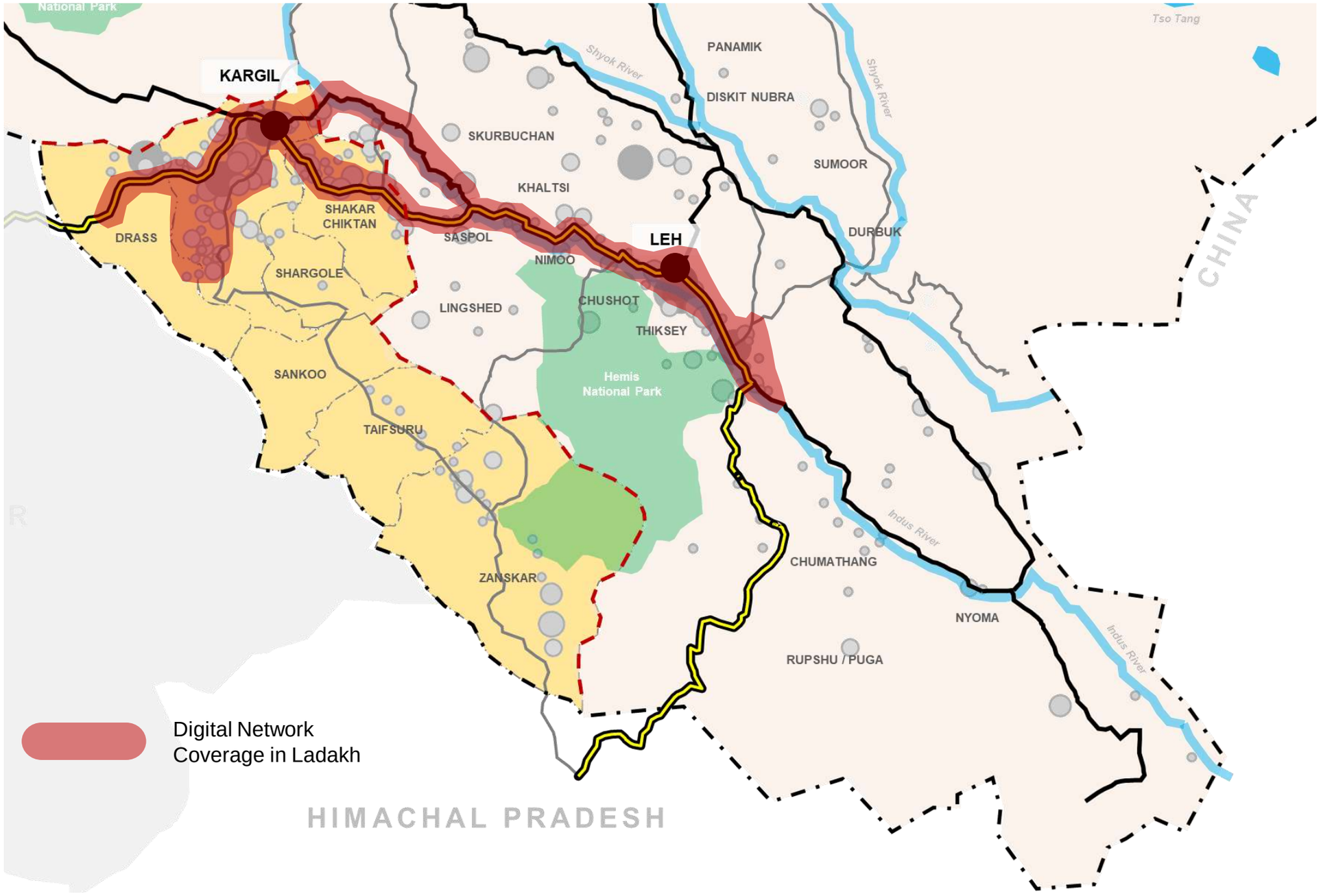
Enhanced proximity of Health facilities

8

Information Technology and Digital Infrastructure

Ladakh
Now

Digital Infrastructure



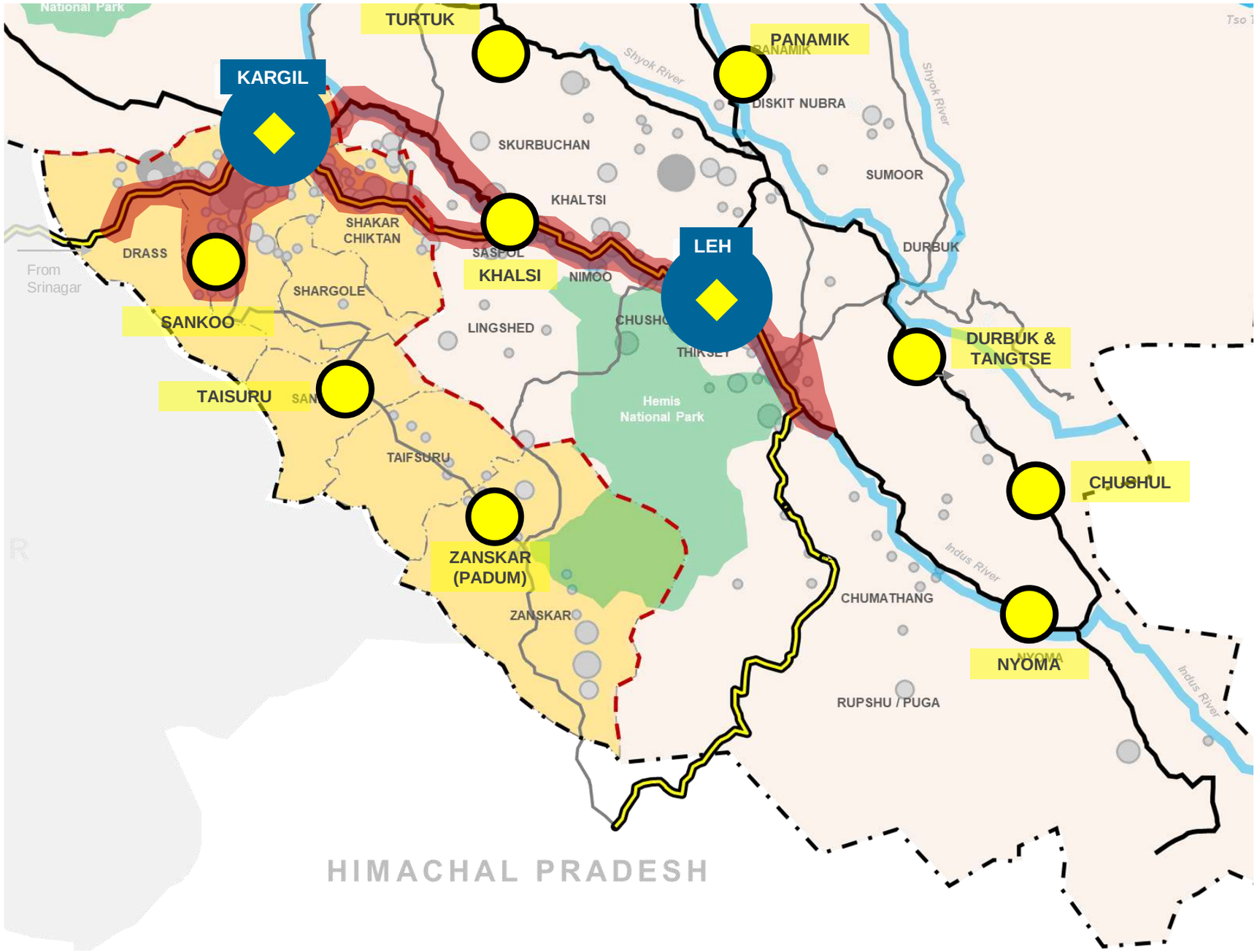
115 villages (47%) out of 243 without any data connectivity

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

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

Ladakh
Next

Digital Infrastructure



DEVELOPMENT STRATEGIES

1| Establishment of IT Connectivity throughout Ladakh

2| Integrated Command and Control Centre at UT and District Level

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

4| Implementation of all ICT Citizen Services

LEGEND

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

Ladakh in 2050

Ladakh
Next

Ladakh's Outlook in 2050

Agricultural Clusters

Industrial Clusters

Transportation Nodes

Power Hubs

Medical Zones

Mobile Medical Units

District Command 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

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

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

Ladakh
Next

Ladakh's Outlook in 2050

Agricultural Clusters

Industrial Clusters

Transportation Nodes

Power Hubs

Medical Zones

Mobile Medical Units

District Command Control Centre

- Agricultural production, markets & export

TURTUK

- Major transportation node

PANAMIK

- Industrial clusters for SMEs
- Major transportation node

KARGIL

NUBRA

- Major transportation node
- Sub-district level education and health facilities

DRASS

KHALSI

LEH

SANKOO

- Major transportation node

DURBUK & TANGTSE

- Agricultural production, markets & export
- Major transportation node
- Sub-district level education facilities
- Major power producer

TAISURU

- Agricultural production, markets & export
- Industrial clusters for SMEs
- Major transportation node
- Sub-district level education facilities
- Major power producer

CHUSHUL

- Major transportation node
- Major power producer

ZANSKAR (PADUM)

NYOMA

- Agricultural production, markets & export
- Industrial clusters for SMEs
- Major transportation node
- Sub-district level education & health facilities
- Major power producer

ANLAY

- Major transportation node
- Major power producer

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