

Longitudinal Ageing Study in India (LASI) Main wave 1

**Integrating Policy and Research on Ageing in ASEAN: Conversations
Across the Policy and Research Divide, Supported by ERIA
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***P. Arokiasamy
Professor and PI, LASI Project
International Institute for Population
Sciences, Mumbai***

LASI Background: Ageing in India

- With 1.21 billion people in 2011 census, the 60+ population accounted for 9% of India's national population, 103 million older people in age 60+
- Between 2011 and 2050, the number of older **persons in age 60+ will rise to 340 million, growing at annual rate of more than 3.0%**
- Including the preretirement phase i.e., the 45+ population, the proportion will rise to over 30%, or around **600 million people in 2050.**
- The old-age support ratio (the number of persons aged 15 to 64 per person aged 65 or older) will also fall dramatically from 13 to 5 in 2050.

Understanding the Dynamics of Ageing in India

India is currently experiencing rapid ageing, with double burden of disease - with the rising burden of non-communicable diseases (NCDs) and a significant burden of infectious and endemic diseases- together they contribute to the world's largest burden of disease (GBD 2017).

The share of NCDs is currently around 65% and is projected to 85% in 2050 non-communicable disease. Ageing presents the daunting task of meeting the needs of a rising number of “elderly”.

India's labour market is largely is dominated by informal sector, majority engaged in agriculture sector and 80% of the labour force is unorganized signifying formal retirement is restricted to just about 20% of organized sector.

More than 50% of 60+ population are currently working. Around 85% of elderly live with their family and are receiving support from family.

About LASI Project

1. Project Title	Longitudinal Ageing Study in India (LASI)	
2. Project duration	Main Wave 1 and 2 : 2016 to 2021	
3. Project approval date	2013, Launched in 2016	
4. Financial Sponsors	<ul style="list-style-type: none">Ministry of Health and Family Welfare (MoHFW), NCD Division, Government of IndiaMinistry of Social Justice and Empowerment (MoSJE), Ageing Divisions, Govt of IndiaNational Institute on Ageing (NIA)/ National Institute of Health (NIH), USAThe United Nations Population Fund (UNFPA), India	
5. Nodal Agency for LASI	International Institute for Population Sciences (IIPS)	
6. Collaborating Institutions	<u>National Collaborating Institutions</u> <ul style="list-style-type: none">Regional Geriatric Centers under NCD division, Ministry of Health and Family Welfare, GOINational AIDS Research Institute (NARI), PuneChest Research Foundation (CRF), Pune	<u>International Collaborating Institutions</u> <ul style="list-style-type: none">Harvard School of Public Health (HSPH)University of Southern California (USC)University of California, Los Angeles, USA (UCLA)RAND Corporation

LASI Objectives and Innovations

Objectives

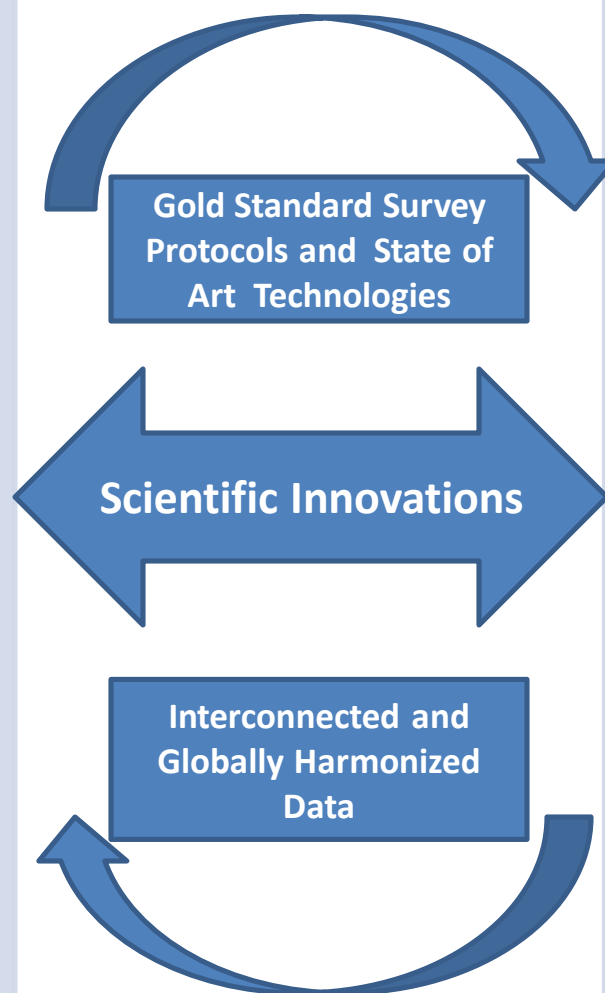
LASI is designed to cover three major subject and policy domains of adult and older population of India, namely:

- Health: Disease burden & risk factors (reported and measured), Functional Health, Cognition and Mental Health and Health care and health care financing (MoHFW)
- Economic: Housing and Environment, Income, Wealth and Expenditure, Work, Pension, Retirement (MoSJE)
- Social: Family, social network, and social welfare programmes (MoSJE)

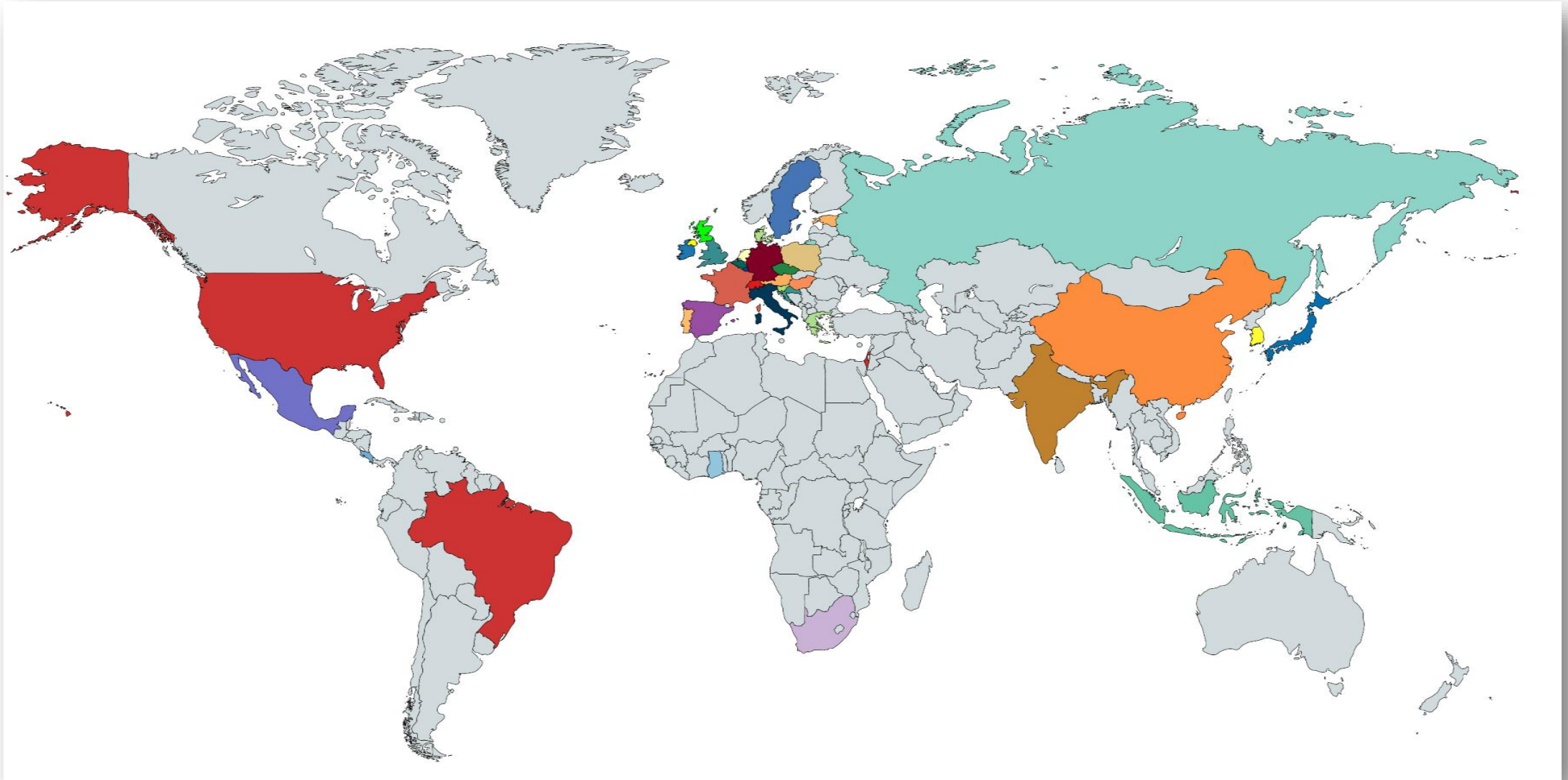
LASI Innovations

India's first and the world's largest longitudinal ageing study, comprises:

- Comprehensive subject coverage: Health, Economics, Sociology of Ageing Transition
- Comprehensive Biomarkers: direct health examinations
- Use of Computer Assisted Personal Interview (CAPI)
- More IT based technologies including Geographic information system (GPS), and barcode technology for matching and anonymizing data world wide



Longitudinal Ageing (Health and Retirement – HRS Family) Studies around the World



HRS-Family Studies

- Health and Retirement Study, **HRS**
- Mexican Health and Aging Study, **MHAS**
- English Longitudinal Study of Ageing, **ELSA**
- Survey of Health, Ageing, and Retirement in Europe, **SHARE (27 European countries and Israel)**
- Costa Rican Longevity and Health Aging Study, **CRELES**
- Korean Longitudinal Study of Aging, **KLoSA**
- Indonesian Family Life Study, **IFLS**
- Japanese Study of Aging and Retirement, **JSTAR**
- Study on Global Ageing and Adult Health, **SAGE**
- The Irish Longitudinal Study on Ageing, **TILDA**
- China Health and Retirement Longitudinal Study, **CHARLS**
- Brazilian Longitudinal Study of Ageing and Well-Being, **ELSI-Brazil**
- Northern Ireland Cohort for Longitudinal Study of Ageing, **NICOLA**
- Health and Aging in Africa: A Longitudinal Study of an INDEPTH Community in South Africa, **HAALSI**
- Healthy Ageing in Scotland, **HAGIS**
- **Longitudinal Aging Study in India, LASI (36 States)**

Research Design

Representativeness

- National estimates
- State estimates (30 states and 6 UTs)

Study Population

- All persons (men and women) aged 45 and above and their spouses irrespective of ages
- Households with at least one person aged 45+, will cover all age eligible persons in LASI age eligible households

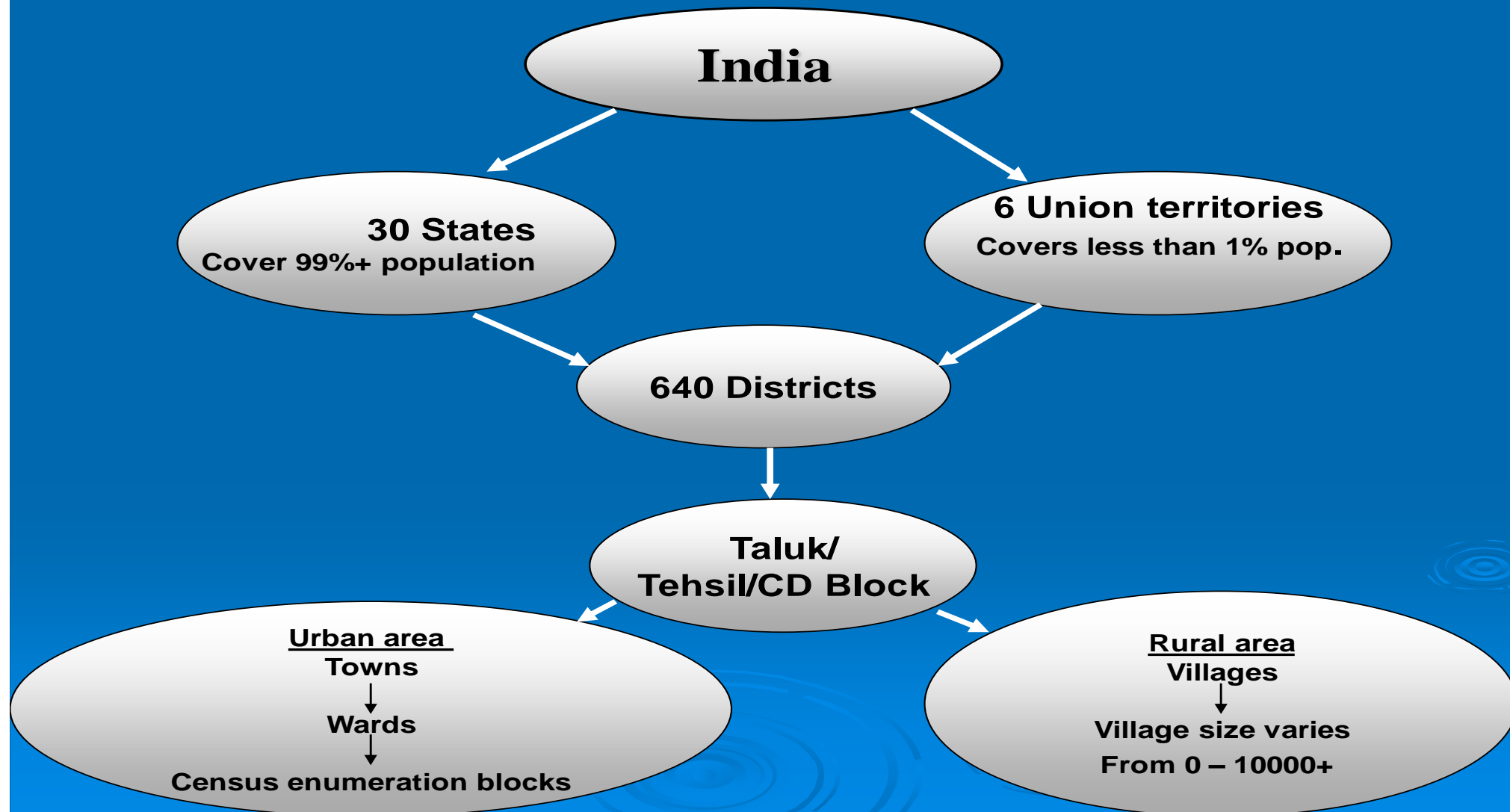
Panel Sample size

- **61,000** individuals aged 45 and above and their spouses **including 30,500** elderly persons aged 60+ and **6000** oldest-old persons aged 75+

Study design

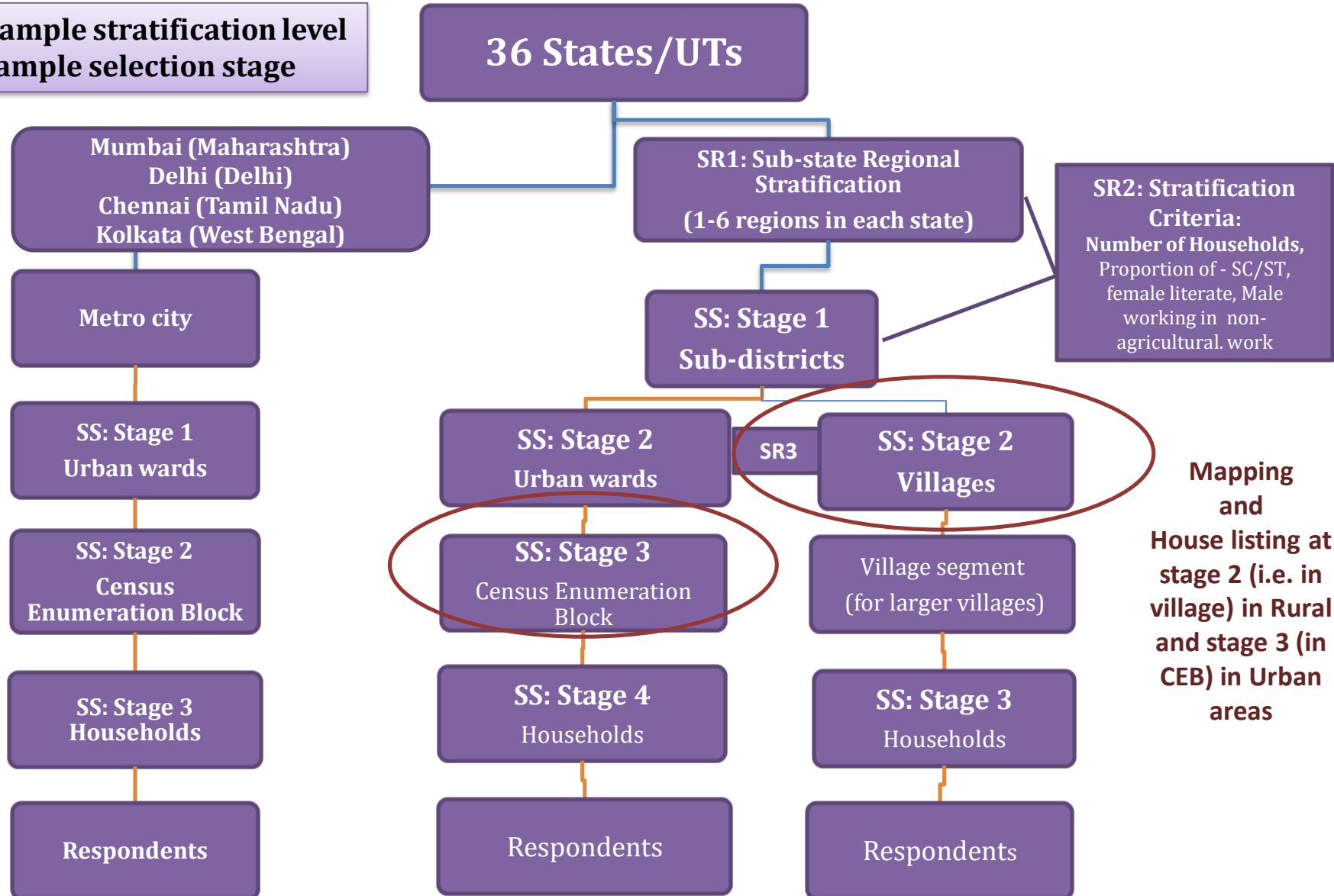
- Longitudinal - 25 years; **First two waves during 2016-21**
- Follow up Interview - every 2 years **until 2040**

Administrative Divisions of India



Multistage Stratified Area Probability Cluster Sampling Approach

SR- sample stratification level
SS- sample selection stage



LASI Instrument

1. Household Schedule

- Household Roster
- Household Housing and Environment
- Household Consumption
- Household Assets and Debts
- Household Income
- Household Health Insurance

2. Individual Schedule

- Demographics
- Family and Social Network, Social Activities and Welfare programmes, Participation, Life Satisfaction
- Health :
 - Disease and Health Conditions
 - Functional Health and Helpers
 - Family Medical History
 - Mental Health: Cognition and Depression
 - Health Behavior

Three Schedules

3. Community Schedule (Rural and Urban)

- Population and Socio-economic characteristics
- Infrastructures facilities : Public, Health, Education, transportation etc.
- Social and Welfare Programmes

▪ Biomarker Collection

- Health Care Utilization
- Work and Employment
- Retirement and Pension
- Experimental modules :
 - Time use and well-being
 - Expectations
 - Social Connectedness
 - Vignettes

LASI Individual Questionnaire : Health Section

Morbidity	Mental Health	Functional Health and Helpers	Health Care Utilization and Health Promotion
<p>Diagnosed Chronic disease</p> <ul style="list-style-type: none">•Hypertension•Diabetes/High Blood Sugar•Cancer•Lung diseases•Heart disease•Stroke•Bone/joint diseases• Psychiatric Conditions•High Cholesterol <p>Other Conditions</p> <ul style="list-style-type: none">•Urogenital•Eyesight•Hearing•Oral health•Health event: Injury/fall and Disaster•Angina, Sleep, Pain•Symptoms <p>Endemic Diseases</p> <ul style="list-style-type: none">• Malaria, Dengue, Diarrhea, Chikungunya, Hepatitis B, Typhoid , Tuberculosis, Anaemia Jaundice etc.	<p>Cognition</p> <ul style="list-style-type: none">• Orientation• Immediate and delayed memory• Concentration and calculation• Drawing• Proxy Cognition <p>Depression</p> <ul style="list-style-type: none">• CESD• CIDI	<ul style="list-style-type: none">• Activities of Daily living• Instrumental activities of daily living• Mobility• Aids/supportive devices• Individual care giver/helpers	<ul style="list-style-type: none">• Health Care Utilization in the past 12 months• Health Insurance• Last Hospitalization• Most Recent Outpatient Visit• Cost for treatment
	<p>Women's Health</p> <ul style="list-style-type: none">• Menstrual related health problems• Hysterectomy and reasons for hysterectomy• PAP smear test and breast examination <p>Immunization</p> <ul style="list-style-type: none">• Hepatitis B, Pneumococcal, Influenza Typhoid etc. <p>Family Medical History</p> <ul style="list-style-type: none">• Chronic conditions: Hypertension, Diabetes, Heart disease etc.• Birth Defects and Congenital disorders		<p>Health Behavior</p> <ul style="list-style-type: none">• Smoking• Alcohol• Physical Activities• Food Insecurity• Spirituality/Meditation• Availability of food at household level

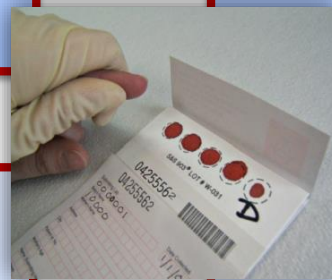
LASI Biomarkers: Direct Health Examination

Functional Health Markers

- Blood Pressure and Pulse rate (**CVD**)
- Lung Function Test (**OAD/ Respiratory diseases**)
- Vision Test :**Near and Distance Vision**

Anthropometric Measurements

- Height } **BMI**
- Weight }
- Waist Circumference } **WHR**
- Hip Circumference }



Dried Blood Spot (DBS) based Markers

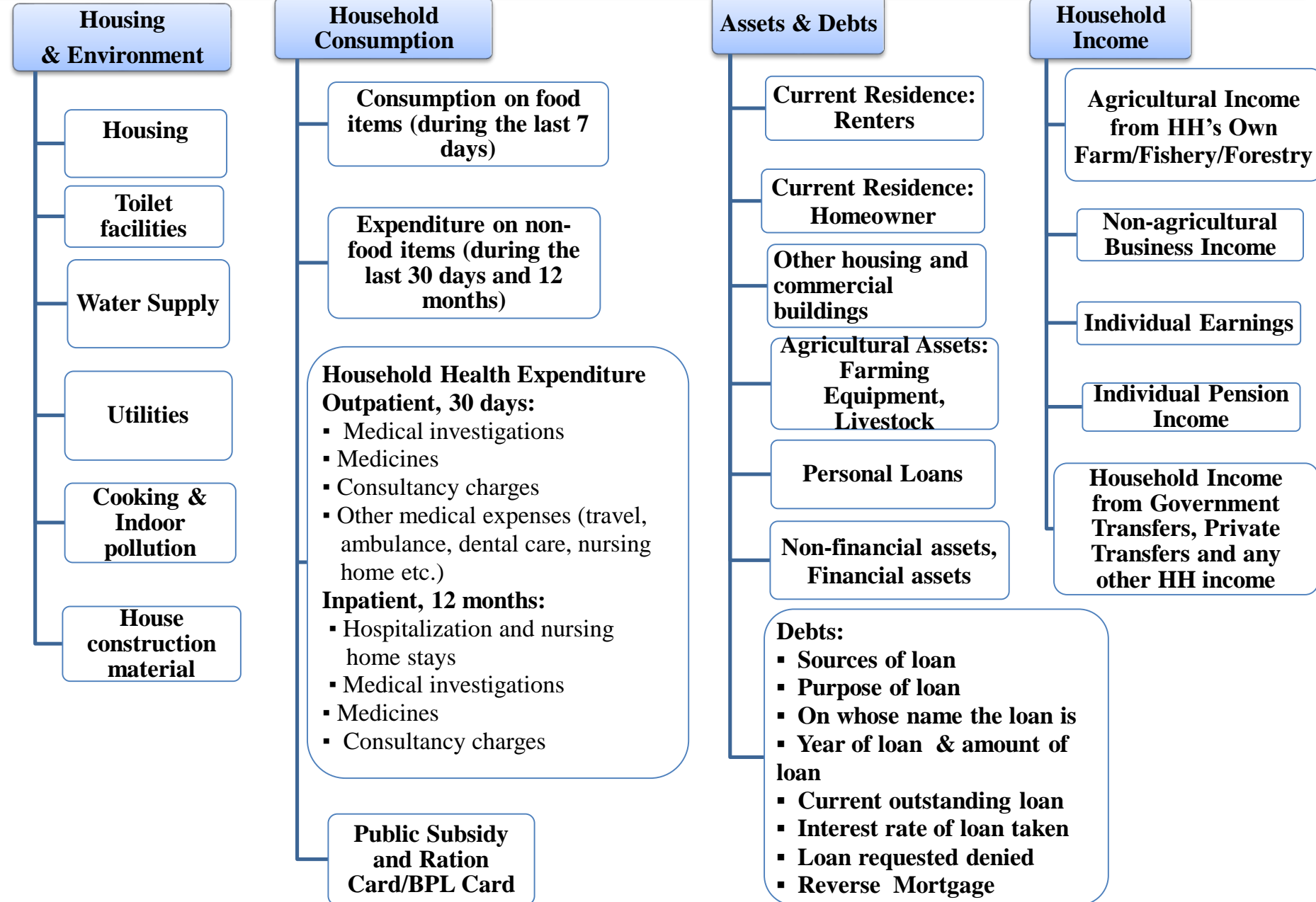
- C-reactive Protein (CRP) (**CVD**)
- Epstein Bar virus/ Cytomegalovirus (EBV/CMV) (**Immunity**)
- Glycosylated Hemoglobin (HbA1c) (**Diabetes**)
- Hemoglobin (Hb) (**Anaemia**)
- Cystatin C (**Kidney disease**)
- Vitamin D (**Bone disease**)

Performance Based Markers

- Grip Strength } **Frailty**
- Timed-walk }
- Balance test (**Cerebellar function**)

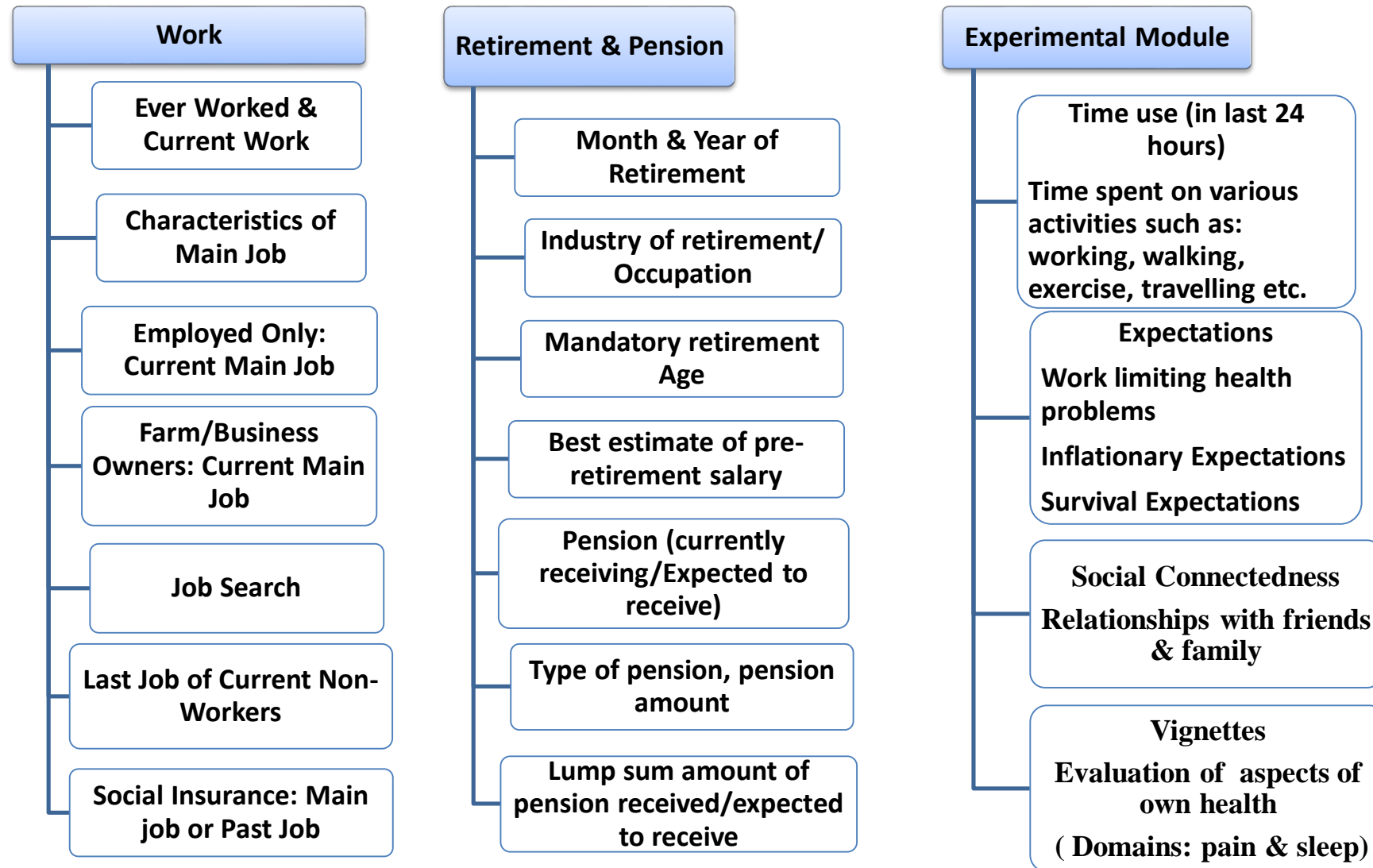
LASI Key Domains : Economic Section

Household Questionnaire



LASI Key Domains : Economic Section

Individual Questionnaire



LASI Key Domains : Social Section

Individual Questionnaire

Family, Social Network & Social Welfare

Spouse, Children & grandchildren, Parents, Siblings, and Friends

Living arrangements, Social Support & Instrumental care

Intra-Household Decision-Making, Social Activities

Social Welfare Schemes

**Psychosocial Measures
Elder Ill-treatment
(inside/outside household)**

Life Satisfaction

**Spirituality/ Religiosity
Opinion about the feeling and intensity of spiritualism**

Welfare schemes meant for old persons

Awareness about schemes?

Whether availing benefits of schemes?

Amount received during the last one year?

For last how many years availing this benefits?

Problem/s faced to avail benefits?

Reasons for not availing benefits,

Concessions given by the government to elderly

Awareness about concessions

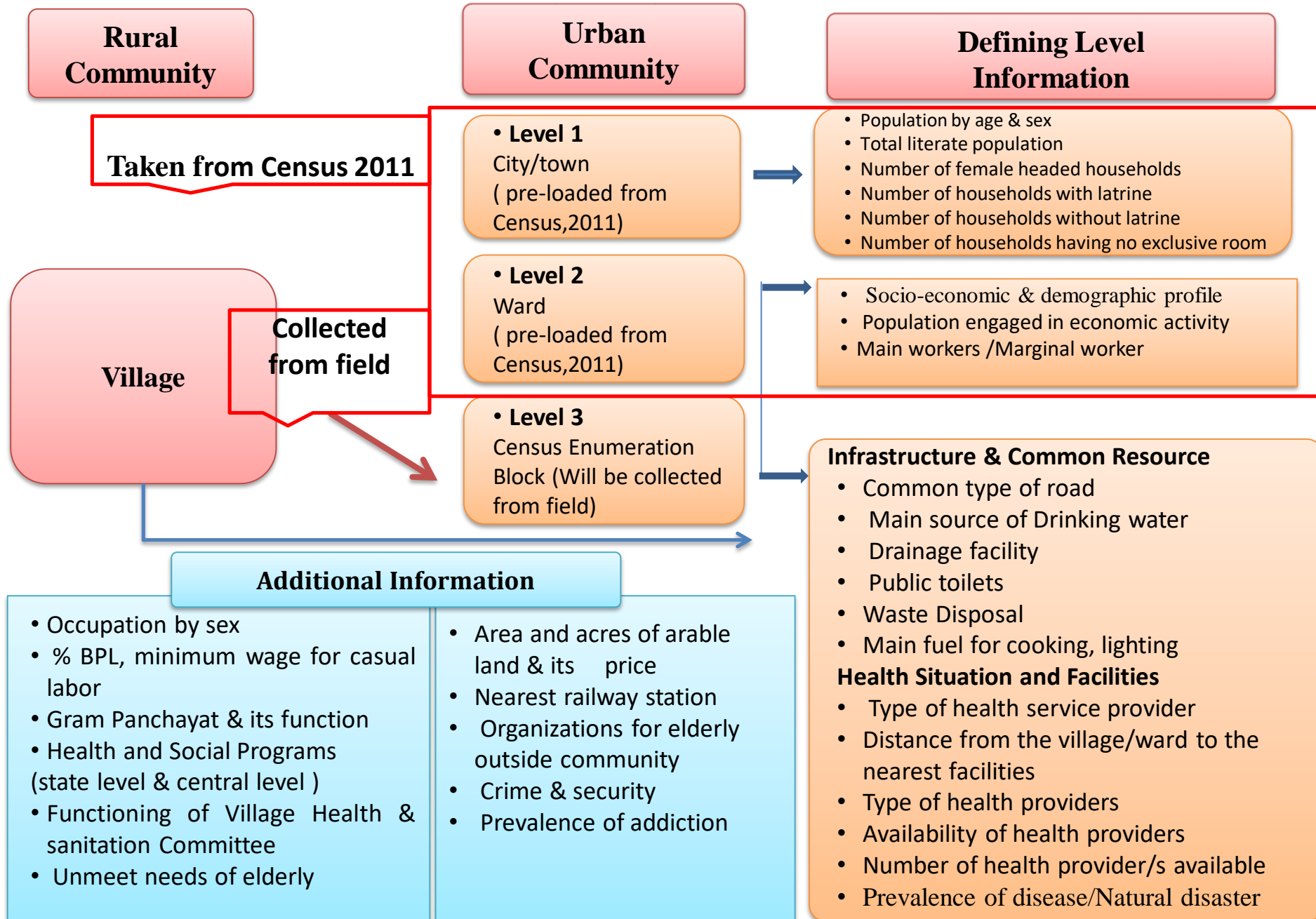
Utilization of concessions

-Travel Concessions

- Income tax benefits

- Banking benefits

LASI - Community Survey



Survey Implementation Process

- State-wise Field Agencies for Survey Implementation
- Two-phase survey implementation to maximize resources and operational efficiency
- Translation of Survey Schedules in 18 State Languages and a numerous dialects
- Two-stage Training of Trainers Workshops
- State-wise training of field investigators team
- Multi-stage on field and CAPI Quality Control on field
- 3-Tier Supervision and Monitoring

LASI Current Status

- LASI Main wave 1 is completed in 34 states, survey in progress in the remaining 2 states
- State-wise factsheets of key indicators have been prepared pending release
- National Report preparation in progress – for Policy and Stakeholders
- Main Wave 2 preparation is progress for launch in the last quarter of this year

LASI main wave1 sampling coverage for India and 30 states and 6 union territories

State/cities	Population (census, 2011) (in millions)	Number of Regions in state	Number of PSUs (tehsils/ taluks)	Fixed number of SSUs (villages/city wards) from each PSU	Total Number of SSUs (villages/city wards)	Fixed number of targeted households from each SSU	Number of households	Number of targeted interviews of individuals aged 45+ and their spouses less than 45 years
Uttar Pradesh	199.8	4	32	5	160	25	4000	4567
Maharashtra	112.4	6	16	5	120	25	3000	3251
Bihar	104.1	6	24	5	120	25	3000	3520
West Bengal	91.3	5	16	5	120	25	3000	3941
Andhra Pradesh	49.4	4	16	5	80	25	2000	2680
Telangana	35.3	2	16	5	80	25	2000	2476
Madhya Pradesh	72.6	6	20	5	100	25	2500	2916
Tamil Nadu	72.1	5	16	5	120	25	3000	3529
Rajasthan	68.5	4	16	5	80	25	2000	2244
Karnataka	61.1	6	16	5	80	25	2000	2421
Gujarat	60.4	7	16	5	80	25	2000	2342
Orissa	42.0	4	16	5	80	25	2000	2918
Kerala	33.4	7	16	5	80	25	2000	2497
Jharkhand	33.0	3	16	5	80	25	2000	2464
Punjab	27.7	4	16	5	80	25	2000	2113
Chhattisgarh	25.5	3	13	5	65	25	1625	2055
Har yana	25.4	4	12	5	65	25	1625	1808

State/cities	Population (census, 2011) (in millions)	Number of Regions in States	Number of PSUs (tehsils/ taluks)	Fixed number of SSUs (villages/city wards) from each PSU	Number of SSUs (villages/city wards)	Fixed number of Targeted households from each SSU	Number of households in each state	Number of targeted interviews of individuals aged 45+ and their spouses less than 45 years
Delhi	16.8		2	5	50	25	1250	1319
Assam	31.2	5	16	5	80	25	2000	2361
Arunachal Pradesh	1.4	5	8	5	40	25	1000	1217
Manipur	2.9	3	8	5	40	25	1000	1370
Meghalaya	3.0	5	8	5	40	25	1000	-----
Mizoram	1.1	3	8	5	40	25	1000	1246
Nagaland	2.0	4	8	5	40	25	1000	1316
Tripura	3.7	4	8	5	40	25	1000	1195
Sikkim	0.6	4	8	5	40	25	1000	-----
Jammu and Kashmir	12.5	4	10	5	50	25	1250	1615
Uttarakhand	10.1	3	10	5	50	25	1250	1362
Himachal Pradesh	6.9	3	10	5	50	25	1250	1392
Goa	1.5	2	10	5	50	25	1250	1428
Chandigarh	1.1	*	8	5	40	25	1000	1026
Puducherry	1.2	*	8	5	40	25	1000	1428
Andaman & Nicobar Islands	0.4	*	8	5	40	25	1000	1254
Dadra & Nagar Haveli	0.3	*	8	5	40	25	1000	1091
Daman & Diu	0.2	*	8	5	40	25	1000	992
Lakshadweep	0.1	*	8	5	40	25	1000	1142
Total	1210.9		456		2440	25	61000	70, 586

Note: Total population of India is 1211 million (Census of India, 2011) * UTs don't have any regions

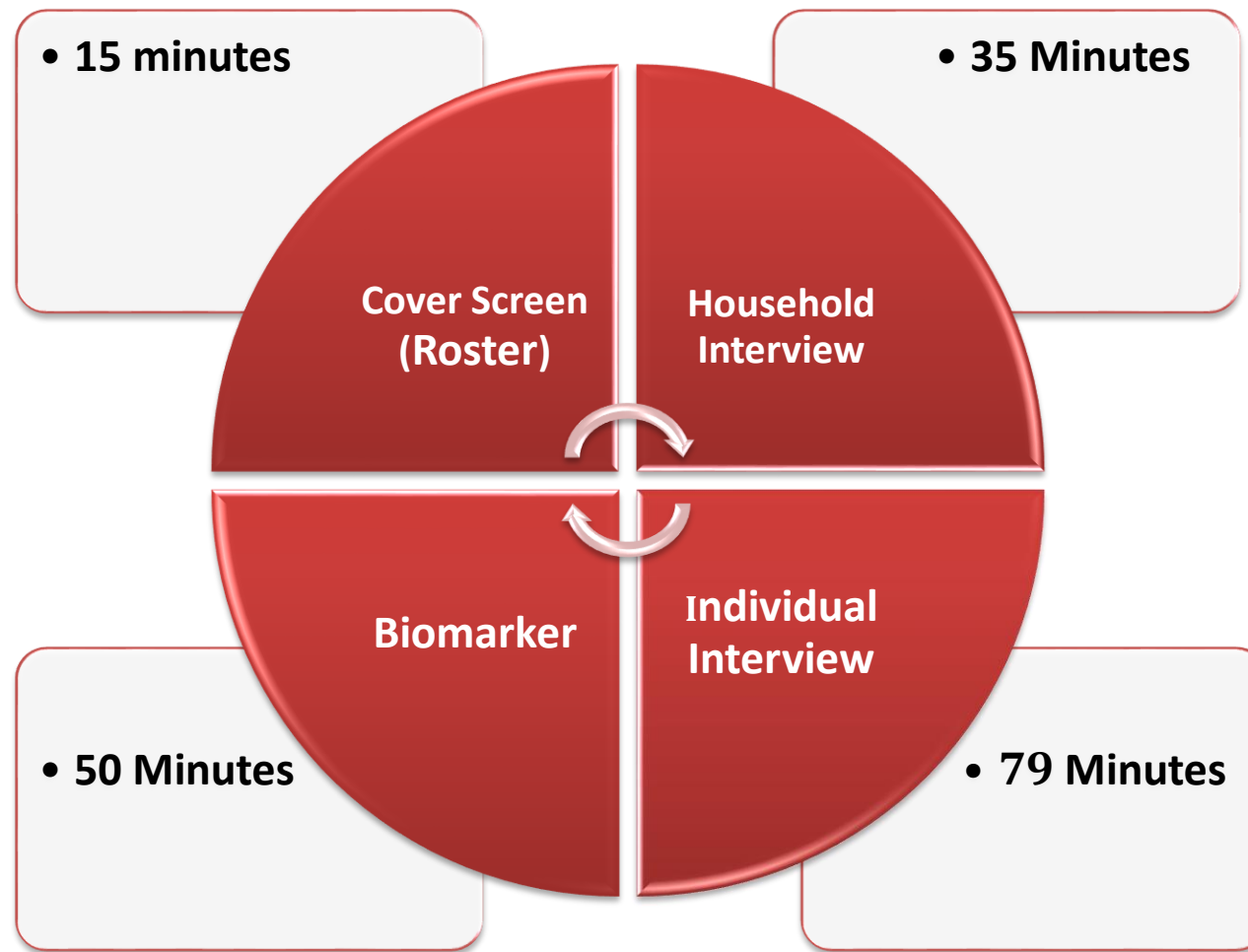
Sample Size, Age eligible Households & Individuals Interviewed, States, India-2017-19

State/UTs	Assigned Sample Size	Age Eligible Households	Households completed	Age eligible Individuals	Individuals completed
Haryana	1625	1285	1251	2391	1898
Delhi	1250	776	754	1494	1319
Rajasthan	2000	1337	1302	2494	2244
Uttar Pradesh	4000	2823	2747	4968	4567
Bihar	3000	2109	2083	3828	3520
Chhattisgarh	1625	1259	1189	2272	2055
Madhya Pradesh	2500	1729	1691	3243	2916
Gujarat	2000	1580	1456	3040	2342
Daman and Diu (UT)	1000	663	578	1272	992
Dadra and Nagar Haveli (UT)	1000	740	631	1371	1090
Karnataka	2000	1557	1489	2983	2421
Goa	1250	959	878	1858	1428
Lakshadweep (UT)	1000	694	627	1328	1142
Kerala	2000	1542	1411	3000	2497
Tamil Nadu	3000	2176	2150	3845	3530
Puducherry (UT)	1000	848	839	1542	1428
Jammu & Kashmir	1250	963	959	1813	1614
Himachal Pradesh	1250	838	805	1683	1388
Uttarakhand	1250	878	863	1566	1358
Punjab	2000	1296	1234	2502	2124
Chandigarh	1000	708	651	1368	1026
Arunachal Pradesh	1000	704	702	1291	1215
Nagaland	1000	803	799	1367	1316
Manipur	1000	862	861	1594	1370
Mizoram	1000	765	732	1410	1246
Tripura	1000	748	721	1374	1195
Assam	2000	1540	1511	2816	2366
West Bengal	3000	2296	2279	4436	3933
Jharkhand	2000	1451	1409	2758	2465
Orissa	2000	1670	1646	3102	2918
Maharashtra	3000	2372	2350	3856	3761
Andhra Pradesh	2000	1568	1513	2851	2681
Andaman & Nicobar (UT)	1000	736	725	1347	1244
Telangana	2000	1486	1419	2701	2477
India	61000	43762	42255	80764	70, 586

State wise Number of Households and Individual Interview								
	Household		Individuals					
State/UTs	Rural	Urban	45-59 years and their spouses irrespective of age	60 years and above	Male	Female	Rural	Urban
Jammu & Kashmir	695	264	884	731	711	903	1171	444
Himachal Pradesh	702	105	770	622	565	827	1227	165
Punjab	866	362	1113	1000	923	1190	1512	601
Chandigarh	-	651	629	397	453	573	-	1026
Uttarakhand	619	245	719	643	558	804	985	377
Haryana	833	418	1050	848	792	1105	1284	614
Delhi	-	754	824	495	599	720	-	1319
Rajasthan	1025	277	1166	1078	970	1274	1756	488
Uttar Pradesh	2156	592	2,398	2169	2080	2486	3,590	977
Bihar	1866	217	1712	1808	1555	1965	3,144	376
Arunachal Pradesh	535	168	898	319	552	664	918	299
Nagaland	569	230	708	608	589	727	939	377
Manipur	575	286	763	607	581	789	922	448
Mizoram	360	372	715	531	563	683	614	632
Tripura	555	166	734	461	491	704	911	284
Assam	1322	189	1547	814	971	1390	2056	305
West Bengal	1148	1137	2394	1547	1622	2318	1971	1970
Jharkhand	1123	285	1296	1168	1043	1421	1948	516
Odisha	1393	254	1681	1237	1255	1663	2436	482
Chhattisgarh	971	218	1275	780	906	1149	1648	407
Madhya Pradesh	1201	490	1602	1314	1325	1590	2117	799
Gujarat	860	598	1350	992	989	1353	1405	937
Daman & Diu	211	367	558	434	410	582	350	642
Dadra & Nagar Haveli	391	240	639	452	475	616	708	383
Maharashtra	1120	882	1754	1497	1327	1924	1935	1316
Andhra Pradesh	1108	405	1576	1104	1122	1558	1956	724
Karnataka	1014	476	1417	1004	973	1448	1647	774
Goa	365	513	790	638	568	860	560	868
Lakshadweep	132	495	638	504	446	696	266	876
Kerala	709	702	1288	1209	991	1506	1270	1227
Tamil Nadu	891	1259	1995	1534	1394	2135	1453	2076
Puducherry	269	570	788	640	552	876	448	980
Andaman & Nicobar	451	280	728	526	571	683	804	450
Telangana	973	446	1415	1061	1008	1468	1666	810

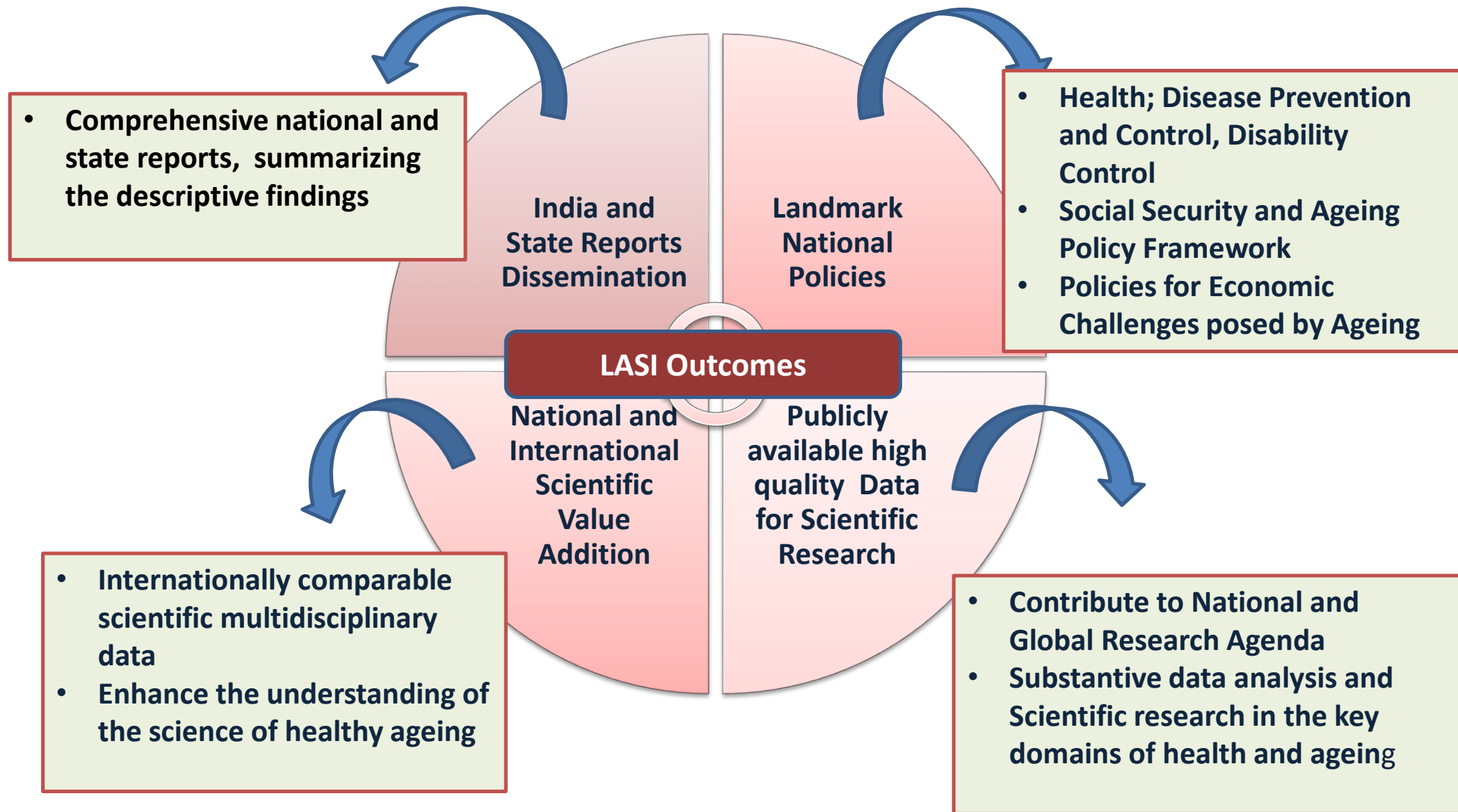
Response Rate by State/UTs						
State/UTs	Household Response Rate			Individual Response Rate		
	Total	Rural	Urban	Total	Rural	Urban
Haryana	95.0	95.2	94.6	79.3	80.2	77.6
Delhi	86.3	85.7	86.3	88.6	86.7	88.7
Rajasthan	92.5	96.1	81.2	90.1	91.4	85.8
Uttar Pradesh	94.7	97.8	84.9	92.0	94.4	84.3
Bihar	94.9	96.0	86.5	92.0	92.2	90.6
Chhattisgarh	93.3	96.1	82.3	90.4	91.3	87.2
Madhya Pradesh	95.0	97.6	89.4	90.2	92.4	84.8
Gujarat	86.2	93.7	77.3	77.4	82.0	71.3
Daman and Diu (UT)	79.7	84.6	77.1	78.0	77.0	78.5
Dadra and Nagar Haveli (UT)	83.8	85.6	81.1	79.9	83.6	73.7
Karnataka	88.2	95.3	76.0	81.2	82.1	79.5
Goa	83.6	89.7	79.7	77.4	74.3	79.6
Lakshadweep (UT)	88.1	89.2	87.9	85.8	91.4	84.2
Kerala	84.1	86.7	81.7	83.3	84.6	82.0
Tamil Nadu	87.7	95.3	83.0	91.9	93.9	90.5
Puducherry (UT)	94.4	99.3	92.2	92.6	95.1	91.5
Jammu & Kashmir	96.5	98.6	91.3	89.1	90.1	86.4
Himachal Pradesh	96.1	95.9	97.2	82.7	83.5	77.1
Uttarakhand	98.3	98.1	98.8	84.4	86.5	79.4
Punjab	93.5	94.6	91.2	75.0	68.4	75.1
Chandigarh (UT)	89.7	88.9	89.7	87.0	89.1	82.0
Arunachal Pradesh	99.2	98.9	100.0	94.3	93.3	97.4
Nagaland	99.3	99.3	99.1	96.3	97.7	92.9
Manipur	99.8	100.0	99.3	86.0	89.2	80.1
Mizoram	94.8	96.3	93.5	88.4	90.6	86.5
Tripura	96.4	97.7	92.2	87.0	89.0	81.1
Assam	98.4	98.7	96.4	84.0	84.3	82.2
West Bengal	98.7	99.7	97.7	88.9	90.5	87.3
Jharkhand	96.4	97.7	91.6	89.3	90.2	85.9
Orissa	98.6	99.4	94.4	94.1	95.7	86.5
Maharashtra	98.7	100.2	96.6	85.3	89.5	78.9
Andhra Pradesh	95.6	96.7	92.9	93.9	95.1	91.0
Andaman & Nicobar (UT)	98.5	98.3	98.9	93.1	93.2	93.0
Telangana	95.2	98.0	89.6	91.6	94.4	86.4
INDIA	83.4	88.2	86.6	87.5	83.8	82.6

Average Time taken for Interview in LASI Wave 1



HH + IND+ BIO : 179 minutes

LASI Outcomes and Long-term Implications



Chapter Plan for Comprehensive National Report

CHAPTER	CHAPTER TITLE
Chapter 1 :	Introduction
Chapter 2 :	Methodology
Chapter 3 :	Household Population Characteristics and Housing And Environment
Chapter 4 :	Household Economic Wellbeing
Chapter 5 :	Demographics
Chapter 6 :	Work, Retirement and Pension
Chapter 7 :	Chronic Health Conditions
Chapter 8 :	Symptoms, Injuries, Endemic Diseases and Women's Health
Chapter 9 :	Direct Health Examinations: Biomarkers
Chapter 10 :	Mental Health: Cognition and Depression
Chapter 11 :	Functional Health: Functional Limitations and Helpers
Chapter 12 :	Health Behaviour and Risk Factors
Chapter 13 :	Health Care, Utilization And Health Financing
Chapter 14 :	Family and Social Network
Chapter 15 :	Decision-making, Social Participation and Life Satisfaction
Chapter 16 :	Social Welfare Programmes

By States and Background Characteristics

Age

- 45-59
- 60-75
- 75+

Sex

- Male
- Female

Marital status

- Currently married
- Widowed
- Divorced/separated/deserted
- Others

Living arrangement

- Living alone
- Living with spouse only
- Living with children only
- Living with spouse and children and others
- Living with others only

Caste/tribe

- Scheduled tribe
- Scheduled caste
- Other backward class
- None of the above

Religion

- Hindu
- Muslim
- Christian
- Sikh
- Buddhist/neo-buddhist
- Jain
- Other

Education

- No schooling
- Less than 5 years complete
- 5-9 years complete
- 10 or more years complete

Work status

- Ever worked
- Currently working
- Never Worked

Residence

- Rural
- Urban

Household income quintile

- Lowest
- Lower
- Middle
- Higher
- Highest

Follow-up Wave Modalities

Consideration of relevant information for tracking the 'R' for follow-up waves:

- ✓ Aadhaar card (Unique ID) no.
- ✓ Respondent Phone numbers (*Landline and Mobile*)
- ✓ Respondent Email ID (if any)
- ✓ Alternative Contact Number
- ✓ Neighbour's Contact Number and Name
- ✓ Chances of their future mobility and location
- ✓ Most preferable person (Name and Contact Number) to be contacted in absence of 'R'

Thank you