A WORKBOOK ON DISTRICT PANNA

sub centre
MDG
SDG
mALNUTRITION
sChemes
sTUNTED
wASTED
PDS
dRINKING wATER
tAP
hANDPUMP
wELL
cONTAMINATION
dROUGHT
tEMPERATURE
rAINFALL
dEVELOP MENT
dISABILITY
pOVERTY
PHC
CHC

WorkbookPANNA

dOCTORS
mEDICAL fACILITIES
qUALITY OF lIFE
bLOCK
BPL
Anganwadi
Mid Day Meal
sCHOOL
eDUCATION
Tiger Reserve
Displacement
cLIMATE

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FINAL VERSION

Suggestions are welcome.

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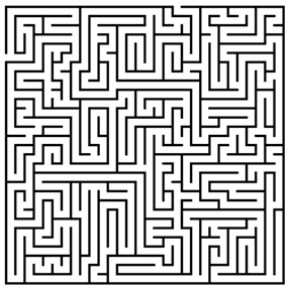


Introduction and Background

Information and communication technology has become vital for the effective delivery of core social functions by the governance models available in a particular country. The IT boom by the turn of this century changed the way information flows, is used and applied. User behaviour is also remotely assessed by the apps installed in the smartphones now a days to send target adverts and assist marketing. Development assistance apps are still few and whatever exist currently are first generation apps. App as an information and communication intervention for development has to still find feet as the development portfolio is widespread and diverse. Still a majority of population around the world depends on basic phones which are their only means of creating a link with the outside world. The time bound delivery of services has become yet another step towards promoting efficiency but it is still not universal and uniform. Global institutions like World Resources Institute (WRI) advocated assessment of local situations by assessing Access to information, Access to Justice and Public Participation in different case contexts. The Government of India passed the Right to Information Act in 2005 which had a public advocacy background to its enactment. Government's 20 point programme is still relevant as poverty eradication and improvement in quality of life of common man is still a long way to cover. The delivery mechanism of schemes and programmes is riddled by several geographical, financial, beneficiary socio-economic factors and leakages in the system.

1. The Workbook in Context – A Broad Spectrum

Information flows are not clearly available to the common man to understand and learn what lacks the delivery of services. The movement of information from Village-Gram Panchayat-Block-District and journey of programmes from top to down is often mismatched and many do not reach the targeted beneficiary. Some programmes are such that will require a dynamic geographic indicators of communities or families which have a migratory nature of work and a relaxed approach towards them i.e. if the family is not home or the house was found locked when the updation is in progress, how such a situation can be addressed that family is not struck off the rolls of scheme. The social structures in certain rural settings is still such that the downtrodden, poor and those dependent on others for livelihood avoid raising their voice for their rights and think that they will loose entitlement or benefits schemes & programmes – information can infuse confidence and enable a larger interface. Alongwith RTI Act, the use of social media has created a virtual sharing space where one can write about issue being faced and gain solidarity from many others much faster than before. But these again remain out of bounds for millions of people and such people have to follow a

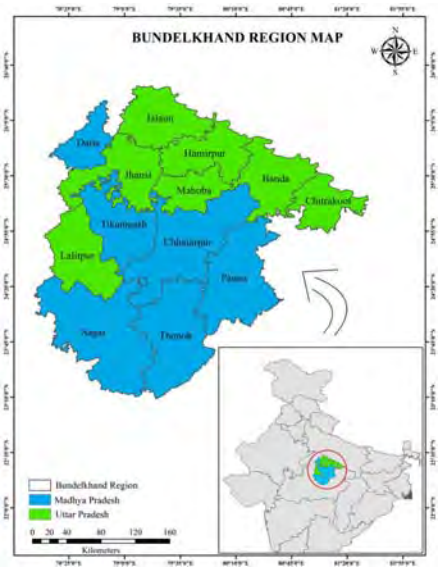
conventional approach of visiting a facility physically to testify for entitlement eligibility.

Another importance of information is its presentation so that it is understood easily. If we put certain information in its geographical and time context it presents direct relationship with the reader which can be a beneficiary, a government official, a student, a medical representative or a ANM. Preparing a base for the same is important. Another crucial aspect is time and data source – largely we depend on Census of India information which is available at the village level also but the time gap for a census information generation is decadal which is a long horizon (time period equivalent to 2 parliamentary elections), NSSO data fills in certain gap between this period. But the role of citizens, users, beneficiaries is also vital in the information flow between two administrative tiers. The workbook is one such form where secondary data is converted to information and is spatially presented over maps so that a birds eye view is available across the region. This allows a better understanding. To make information dynamic evolves if people find the information useful which may have helped in improving delivery of services in their area. The confidence also stems from the 73rd Constitutional Amendment of 1992 where in 29 subjects within the function of Panchayats were listed. That information will be relevant to the respective Panchayats at their revenue boundaries level as well of all villages at the block level.

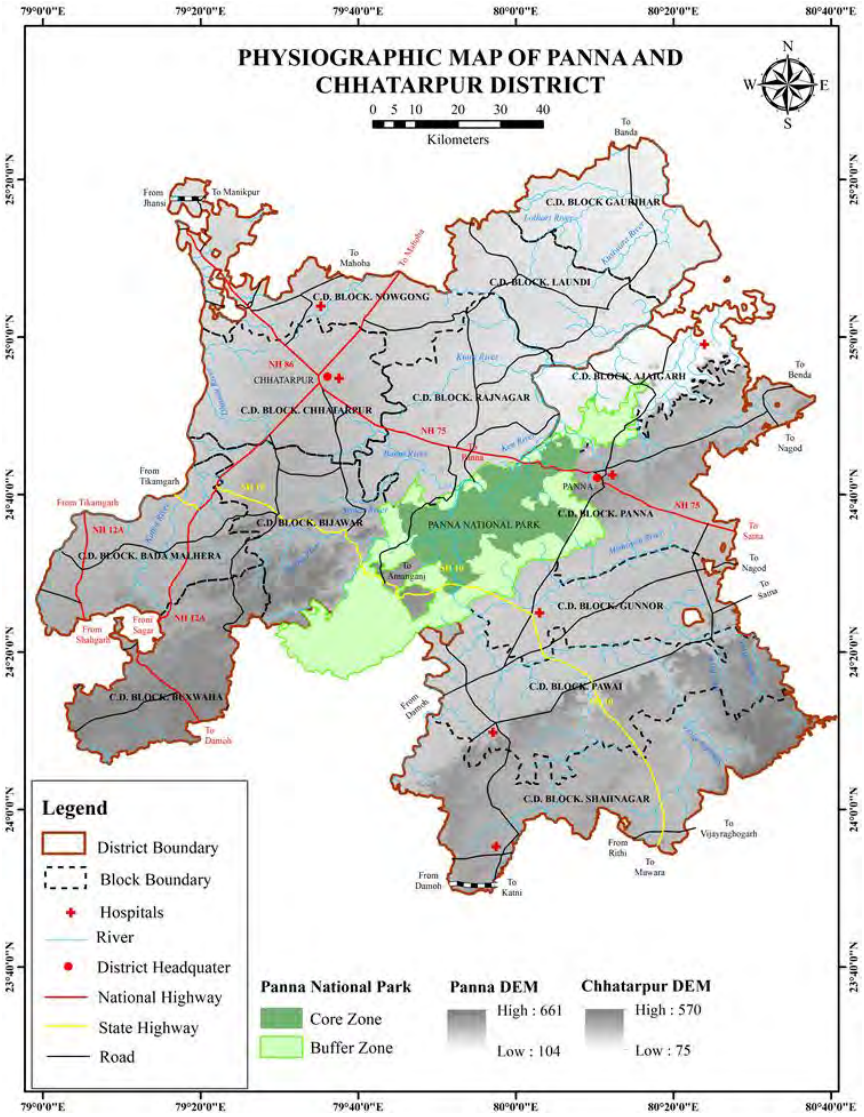
2. The Region in Context

Bundelkhand region lies between the Indo-Gangetic plain in the north and the Vindhya Range to the south. The region is spread over 70,500 Km^2 and comprise of 13 districts, 7 of Uttar Pradesh and 6 of Madhya Pradesh. The Uttar Pradesh portion of Bundelkhand region has a density of 328 persons/Sq. Kms whereas the density is 210 persons/Sq.Km. in Madhya Pradesh portion. The relative development index of this region is low[1] than the rest of the state units. The inter-regional connectivity between the bordering districts of Chhattarpur-Mahoba-Banda-Jhansi, Tikamgarh-Lalitput-Jhansi and Panna-Banda-Chitrakooot makes it a contiguous region. Those districts bordering divisional headquarters stand a better chance to avail services of a higher order, say the districts surrounding divisional headquarters of Jhansi-Chitrakoot-Sagar.

[1] The state of Madhya Pradesh is one of the Empowered Action Group states of the National Health Mission. These states have struggled to contain population growth at manageable levels and have poorer quality of life indicators than other states [*Madhya Pradesh Health Systems Assessment Report, March 2016]*


BUNDELKHAND REGION MAP
Jalaun
Hamirpur
Jhansi
Mahoba
Banda
Chitrakoot
Tikamgarh
Chhatarpur
Lalitpur
Panna
Sagar
Damoh
Bundelkhand Region
Madhya Pradesh
Uttar Pradesh
Kilometers

MADHYA PRADESH
UTTAR PRADESH
RAJASTHAN
GUJARAT
MAHARASHTRA
CHHATTISGARH
LEGEND


PHYSIOGRAPHIC MAP OF PANNA AND CHHATARPUR DISTRICT
Kilometers
C.D. BLOCK GAURIHAR
C.D. BLOCK. LAUNDI
C.D. BLOCK. NOWGONG
C.D. BLOCK. AJAIGARH
C.D. BLOCK. RAJNAGAR
C.D. BLOCK. CHHATARPUR
C.D. BLOCK. BIJAWAR
C.D. BLOCK. PANNA
C.D. BLOCK. BADA MALHERA
C.D. BLOCK. GUNNOR
C.D. BLOCK. PAWAI
C.D. BLOCK. BUXWAHA
C.D. BLOCK. SHAHNAGAR
PANNA NATIONAL PARK
CHHATARPUR
PANNA
Legend
District Boundary
Block Boundary
Hospitals
River
District Headquater
National Highway
State Highway
Road
Panna National Park
Core Zone
Buffer Zone
Panna DEM
High : 661
Low : 104
Chhatarpur DEM
High : 570
Low : 75

Panna attains its importance due to its diamonds and the only large scale protected area i.e. the Panna Tiger Reserve spread over 1600 km^2 in this region and the well-known UNESCO world heritage site of Khajuraho Temple (Group of Monuments) in the **C**hhattarpur District which is visited by national and international tourists and travellers. Despite being on the international map, these two contiguous districts like the other districts in the Bundelkhand region are marred in poverty, low level of facilities and malnutrition[2]. This demands more insights for improving policy formulation and planning interventions at the district level. Contextualising village and block level information in the thematic frame viz. facilities, amenities and other development indices may render logical interpretation of situation which can present spatial planning interventions for betterment.

While each department focuses on their respective domains, inter-departmental information availability is thus also distributed and not collated in a form which can be easily understood in totality by communities, officials, researchers interested in the region. The other issue is scale of information availability. Assessing parameters across the Panchayat and villages presents a micro picture and most of the government portals too are promoting digital information. Whilst the purpose is to increase access to information, transparency and accountability, outreach of information is still restricted and requires a medium for enabling information-cum-services. But accessibility to the available information is still a hurdle, atleast in these regions where poverty disengages much of the population from thinking beyond two square meals.

The need thus also is to spatially present the information at a scale which people can relate to and make a sense of information which is the most closely available in their space i.e. the closest is the Panchayats and block headquarters. The workbook is thus an idea which Environics Trust has been advocating as a tool for better synchronisation of spatial information that can become available to the people to use and plan effectively. As this region has pockets where even basic needs seem to be far-fetched, providing thematic information at micro as well as macro level may increase the aspiration among the citizens, officials and alike to work towards making human development a cause rather than a routine physical development exercise.

Even after the advent of Right to Information, information gap remains. The RTI users may have information which represents the operational aspects of a scheme or a facility which can be loaded as and when the information is updated - it will be useful if these are from ground up. This will not be contrary but complementary to the

[2] Madhya Pradesh struggles with health problems that contribute to high maternal and child mortality rates. These problems include anemia, malnutrition among adults and children, early childhood illnesses, and several infectious diseases (NFHS-3, 2006) [*Madhya Pradesh Health Systems Assessment Report, March 2016]*

government's effort to improve the development situation on ground. Another aspect is to make the workbook dynamic so that it doesn't remain a one-time document.

3. What is a Workbook?

The workbook is a repository of existing information at different levels represented through a series of maps and descriptions provided. The workbook will have a series of maps at varying scales i.e. few representing Village & Panchayat level information and few at the block level depending upon the relevance of themes. Like, health indices are mostly available at the block level whereas certain basic 'social & physical infrastructure' information is available at village level. More inter and intra theme maps will also be available.

The workbook is a collection of illustrative maps at levels best representing the information i.e. certain maps whose purpose is to provide macro-geographical indicators to get insight at first look, for example representing block level information only. The context will be explained for each such theme. The other level of map would be representing village level information which will be shown within a district map as well as within a block map separately. These will be the featured maps where people will correlate to most of the information and could play a upfront role in enhancing and improving the information.

4. Workbook for Whom?

The workbook can be useful for citizens, academicians, departments, organisations for understanding the vital characteristics of the region. The core departments are anyways the prime holders of information and enable the information flow – this assimilation of information in the form of workbook is another aspect, say block planning and alike. The departments can make some utility by glancing through varying themes. The Panchayat in the same manner can take it as a guiding tool for improving the situations and also contribute in updating of this workbook from time to time or adding a new theme to it. Panchayat will be nearest for the people to visit and thus most appropriate level for information dissemination. Students can take a look at their respective block and Panchayat and discuss various facets of information and what they seek from the schemes/programmes.

THEMES

- Demography
- Work Participation Rate
- Availability of Agricultural Workers to Cultivators
- Land Holdings
- Households Worked in MNREGA
- Health
- Disability
- Housing
- Poverty

DEMOGRAPHY

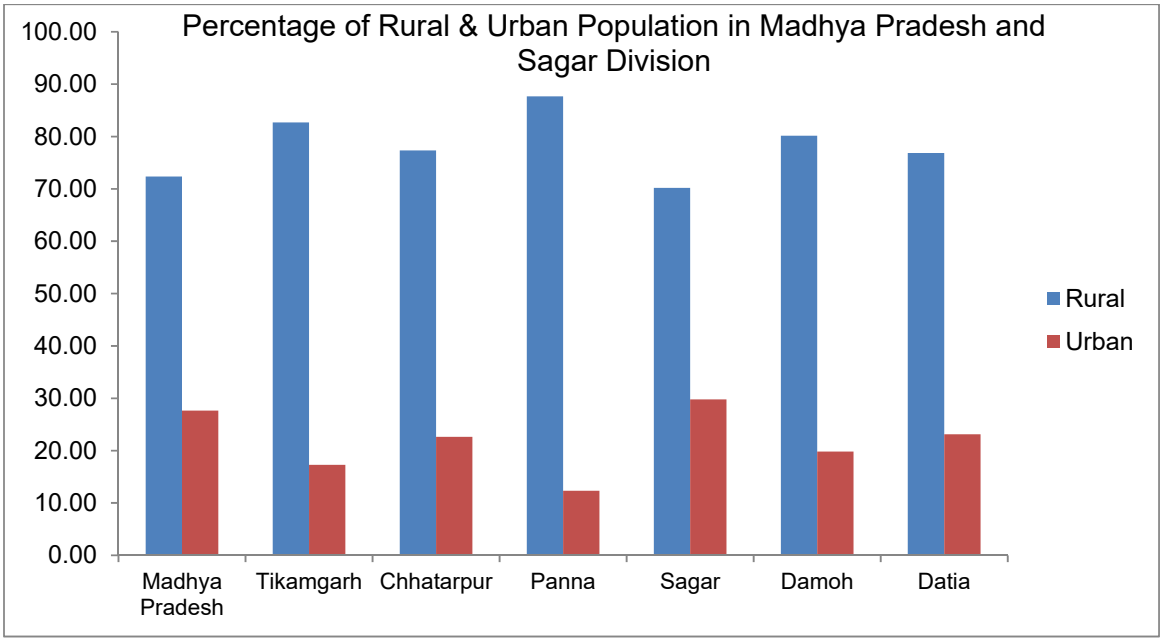
India is called a country with a demographic dividend i.e. a nation of young population but alongwith comes a challenge of providing education and absorbing them into the economy as an active workforce. Their health and well-being is another concern.

Total rural population of Panna district is 8,91,185 persons. Scheduled tribe population makes 18.41% of total population where the Scheduled caste population makes 20.66% of total population.

The census of India enumerates total population and classify it into Schedule Caste and Schedule Tribe and the remaining is considered as general population. Panna has almost equivalent proportion of SC and ST population – 20.75% and 18.42% respectively. Chhattarpur on the other hand has less ST population (5%) whereas the SC population's proportion is 24.51%.

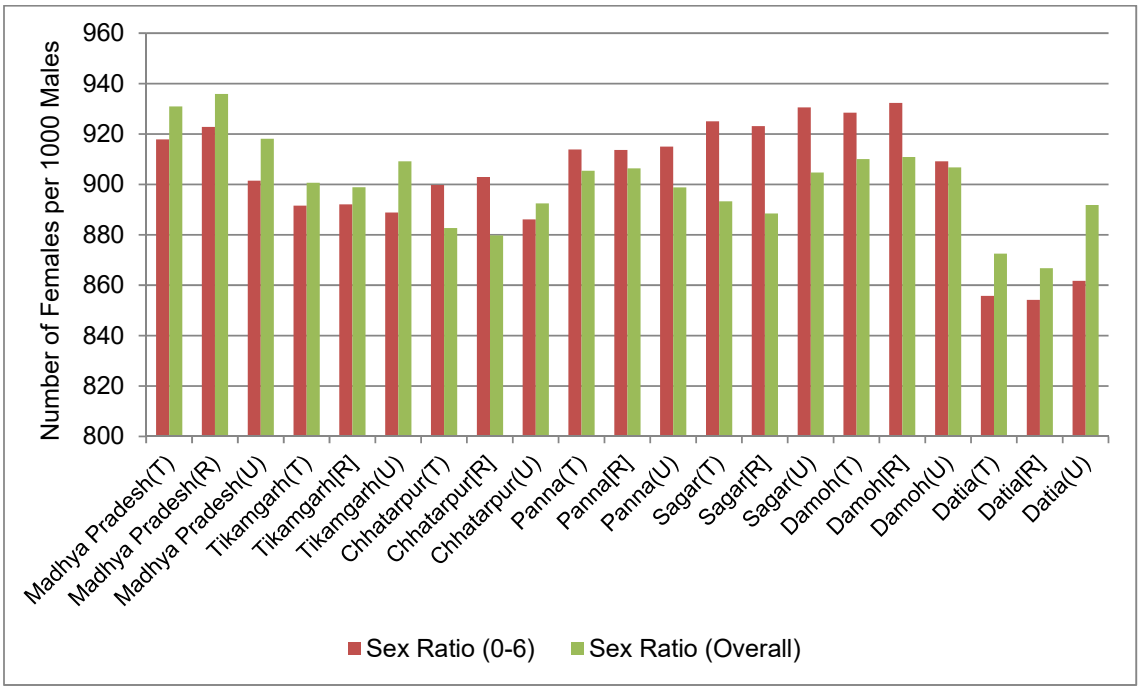
One commonality between the two districts is that the proportion of 0-6 years population to the total population is 17%

Panna's population is 99% Rural as per Census 2011.



The urban population in Madhya Pradesh is 27.63%. The low urban population in the Sagar division is in Panna (12.33%) and the highest in Sagar (29.80%).

The proportion of 0-6 years population in both rural Panna and Chhatarpur is around 17%, it is the lowest in Datia (14%) and mostly hovers around 16% in other districts of the Sagar division.



Sex ratio is number of females per 1000 males. The sex ratio is lowest in Datia but other districts also fall under 900 or marginally above 900 which shows requirement of more advocacy and proactive measures to bridge the gap. It is found that sex ratio (0-6 years) is relatively higher than overall sex ratio of population in many districts which may also indicate life expectancy issues.

Although low sex ratio is reported across different districts. An overview of sex ratio of overall population, child population and sex ratio at live birth will give an insight into different age groups indicating relative situations.

Sex ratio is an important indicator in any developing society's growth as well as gender sensitive planning and delivery of services which are critical to the overall health of the community. Declining sex ratio will thus have to create awareness and bringing social change to overcome the stigma and if the reasons are access to services, a systems approach is required to make available services to the population.

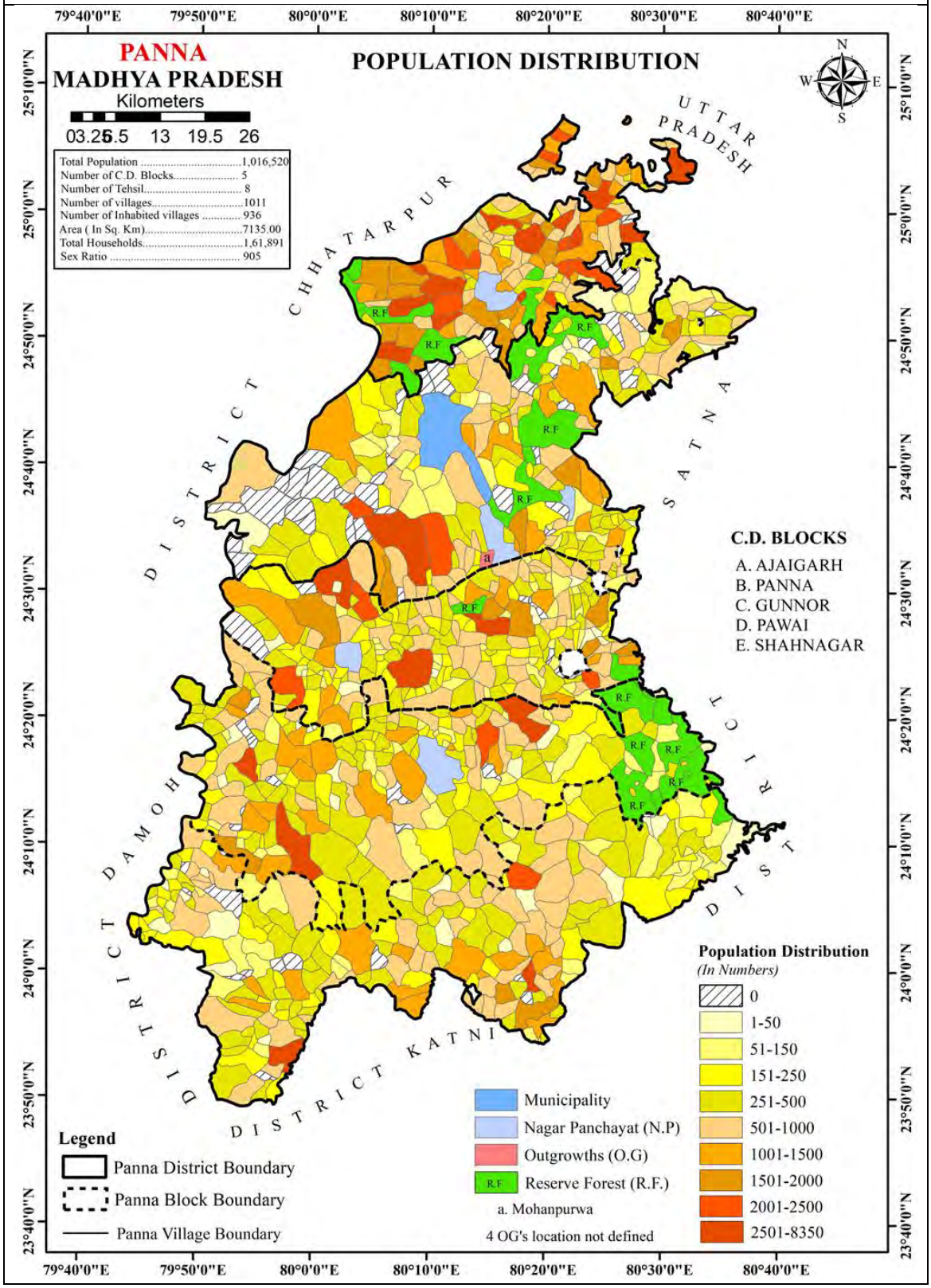
The overall sex ratio is the best in Shahnagar (930) and the lowest is in Ajaigarh (878) but once we look at child sex ratio, it is more than the overall sex ratio except Shahnagar where overall sex ratio is greater than child sex ratio. Sex ratio at birth is relatively much greater in all the blocks except Shahnagar (880) for the year 2016-17. The sex ratio in both the districts among ST population is noteworthy which is much better than the other population. The sex ratio among ST population in Panna is 949 and in Chhattarpur it is 935.

Blocks		Sex Ratio at birth (Female Live Births/ Male Births *1000)		Sex Ratio Overall	Sex Ratio Child
		2016-17	2015-16	2011 Census data	
	District Panna	928	932	905	914
1	Ajaigarh	953	971	878	899
3	Devendranagar (Panna)	965	911	896	905
2	Amanganj (Gunnor)	905	959	916	927
4	Pawai	919	913	906	922
5	Shahnagar	880	919	930	913

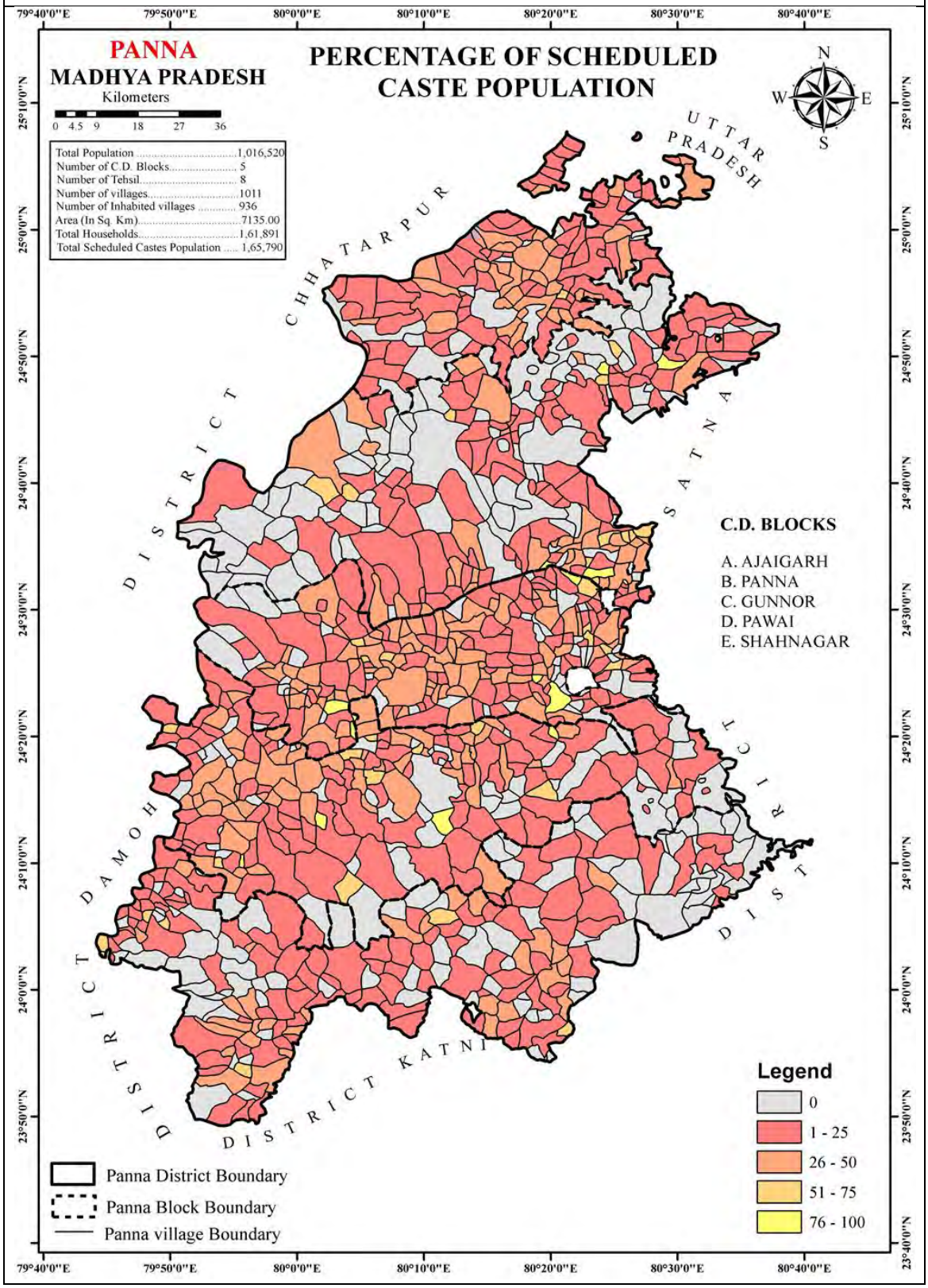
Source: HMIS portal

Among the rural population, literacy is 52.23% in Panna.

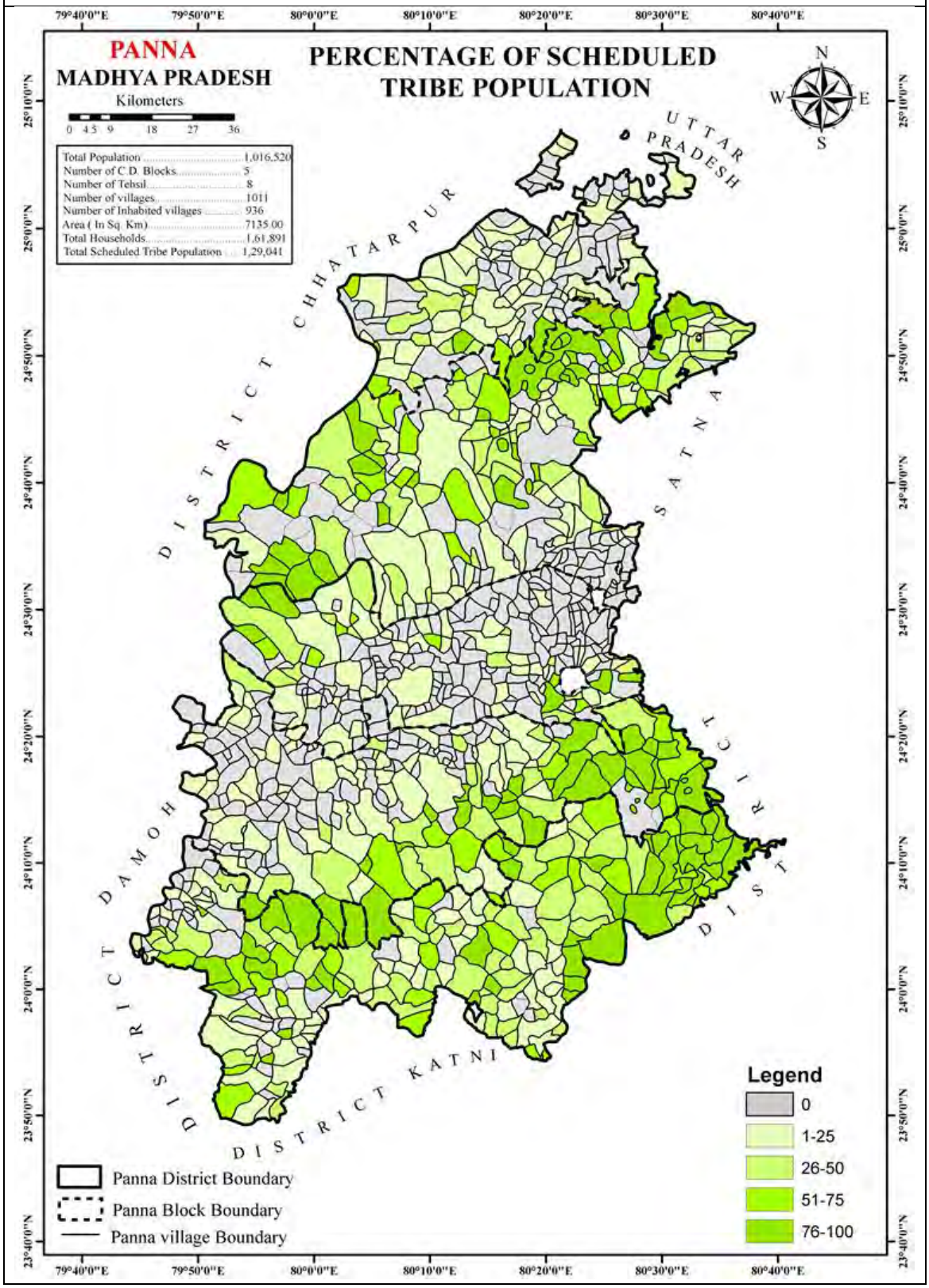
MAP 1 – POPULATION DISTRIBUTION



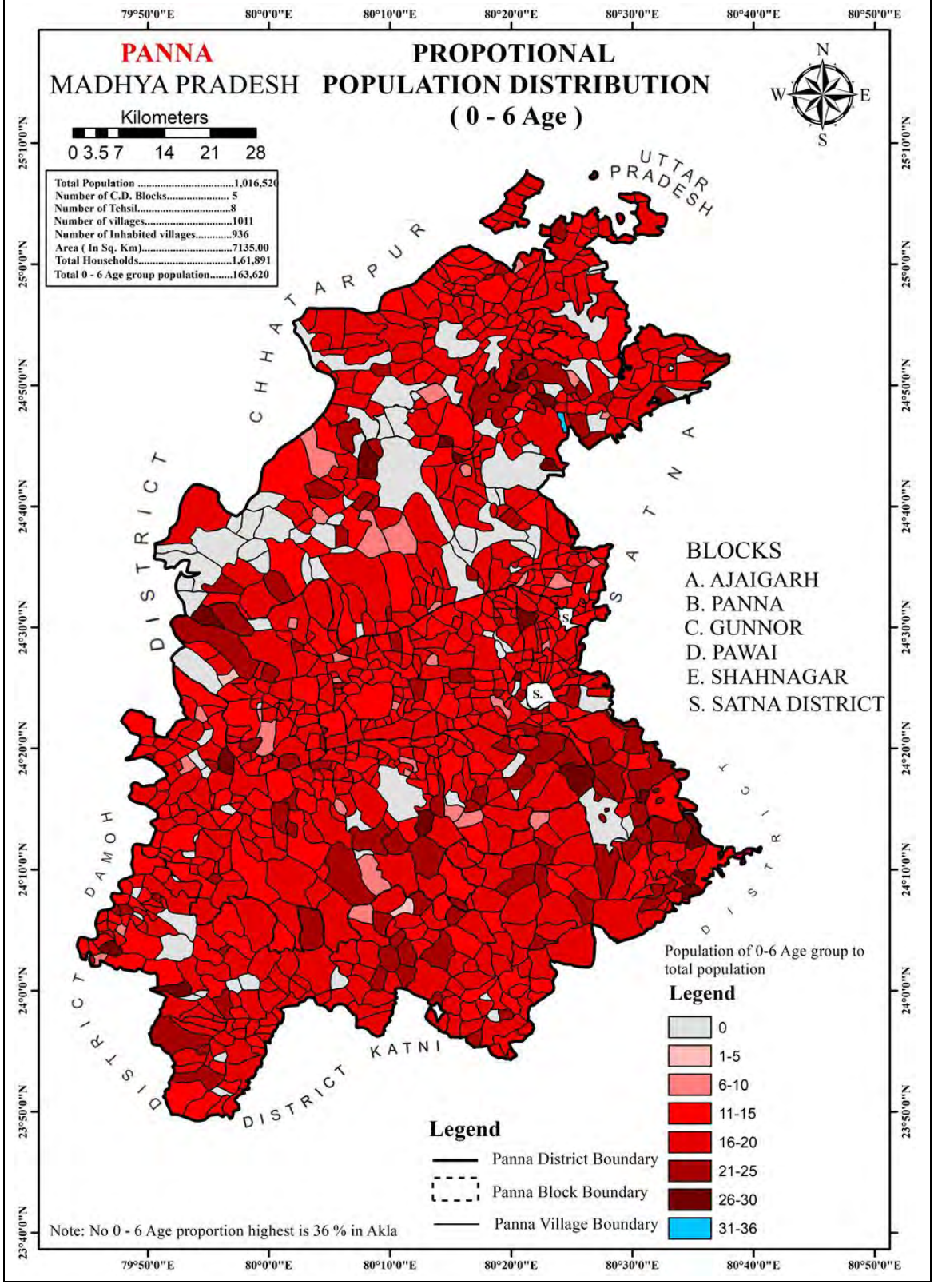
MAP 2 – PROPORTION OF SCHEDULE CASTE POPULATION



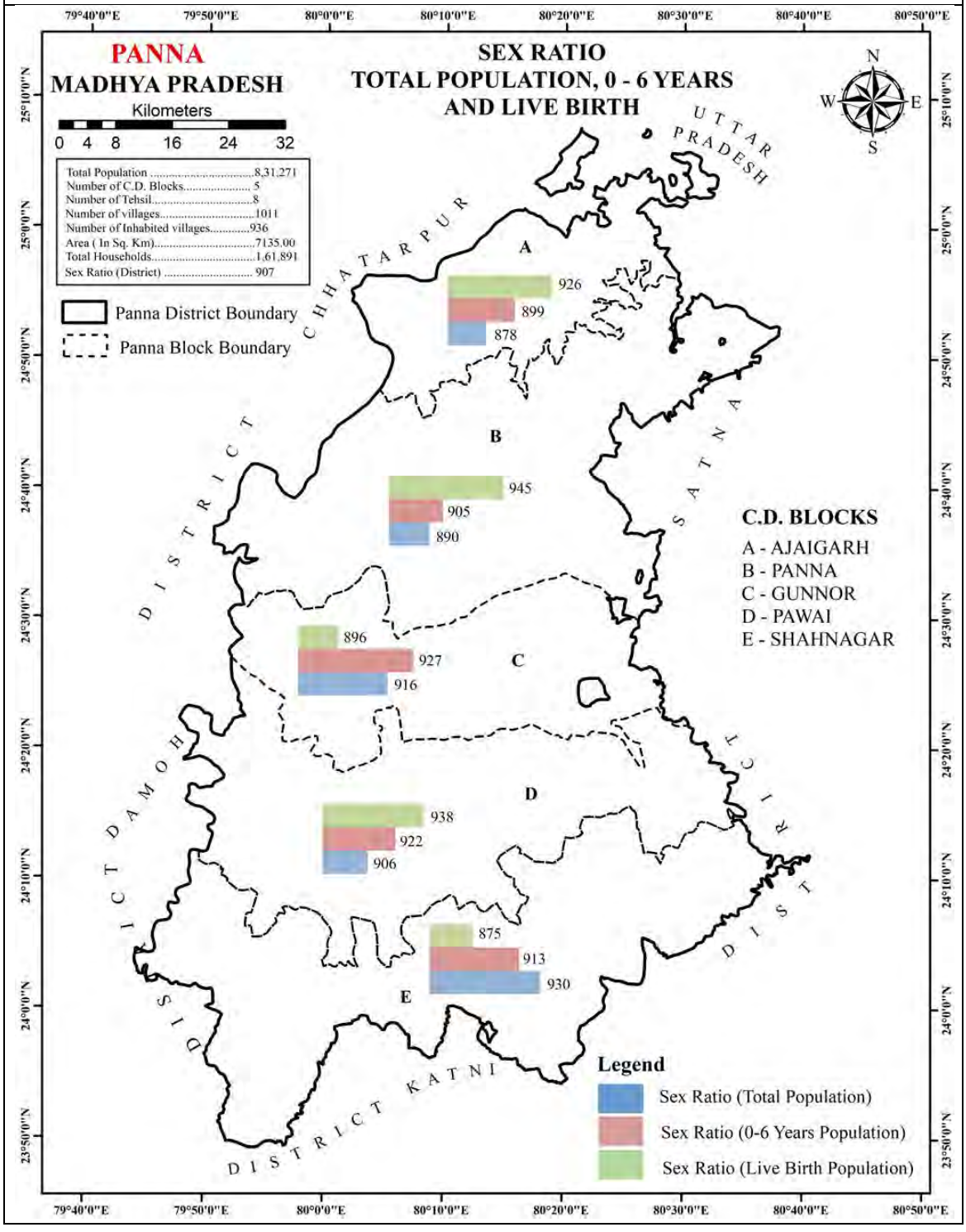
MAP 3 – PROPORTION OF SCHEDULED TRIBE POPULATION



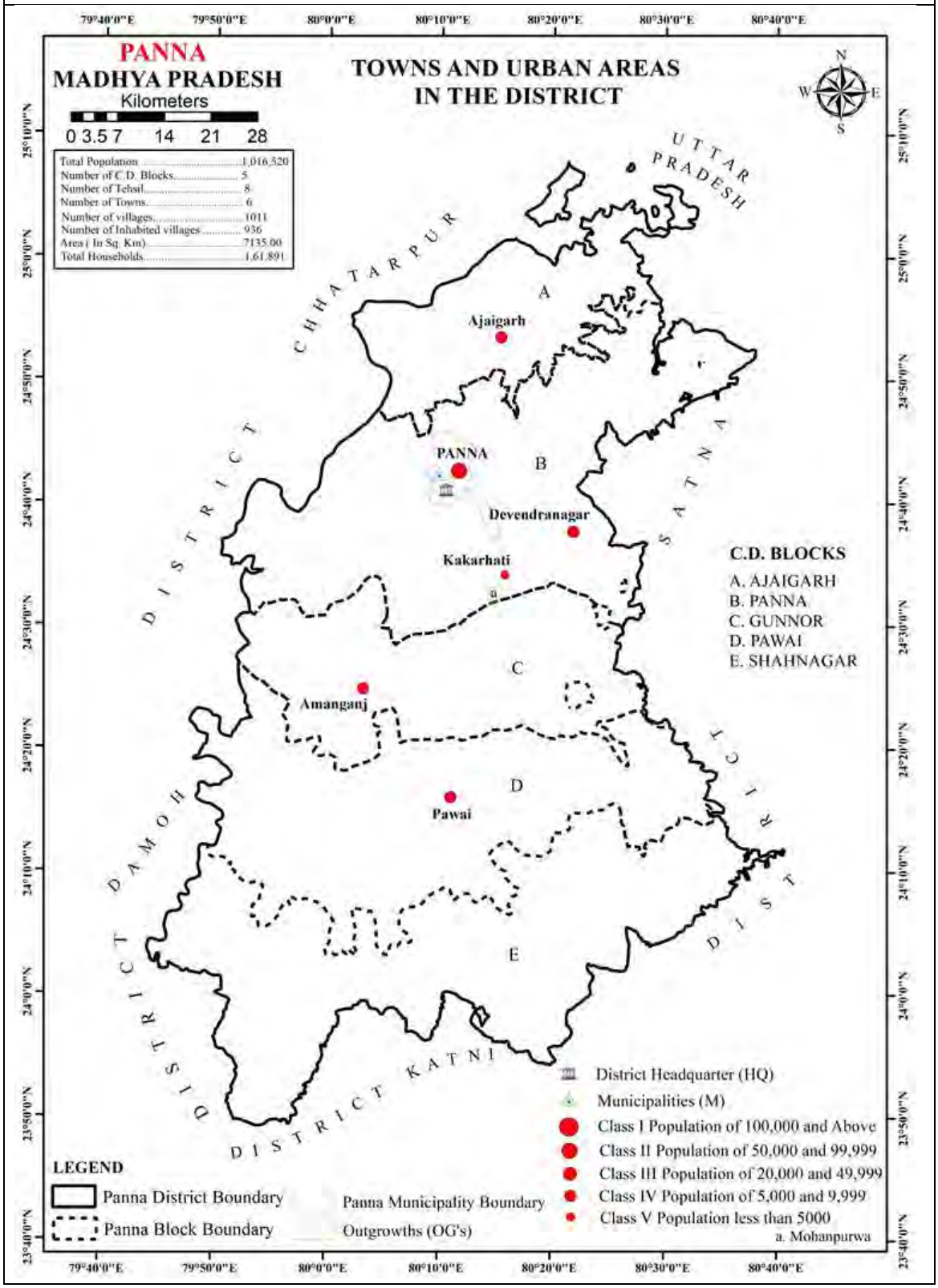
MAP 4 – POPULATION DISTRIBUTION (0-6 YRS)



MAP 5 – SEX RATIO OF TOTAL POPULATION, 0-6 YEARS AND AT BIRTH

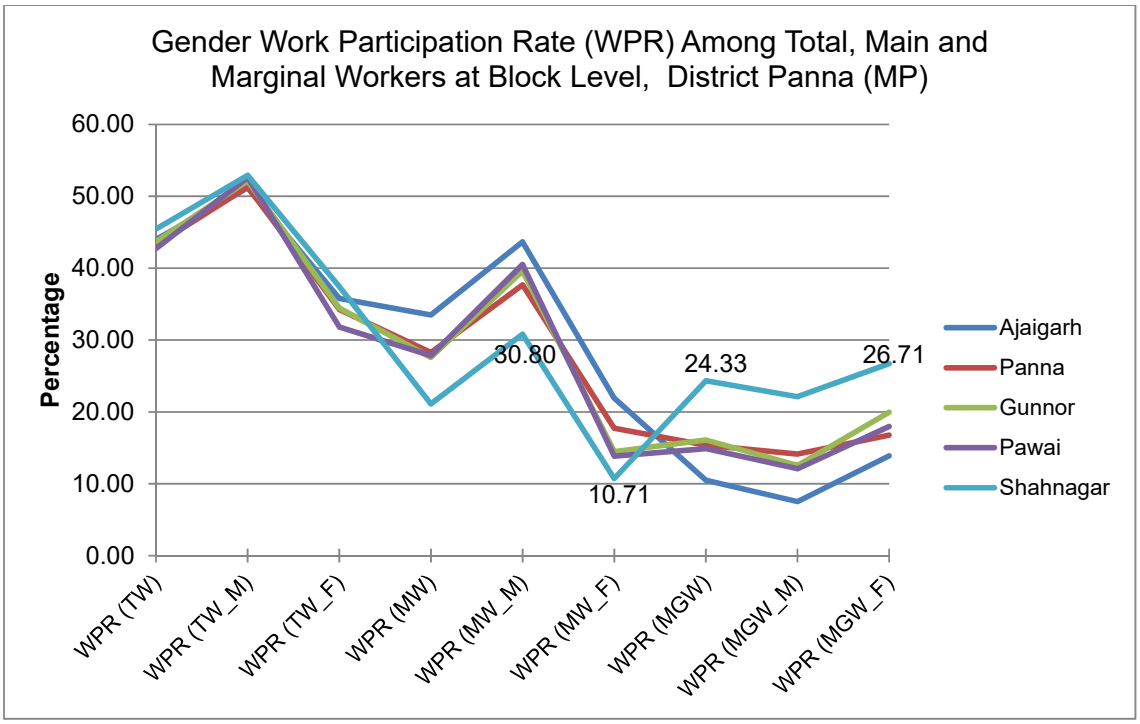


MAP 6 – URBAN AREAS POPULATION



WORK PARTICIPATION RATE

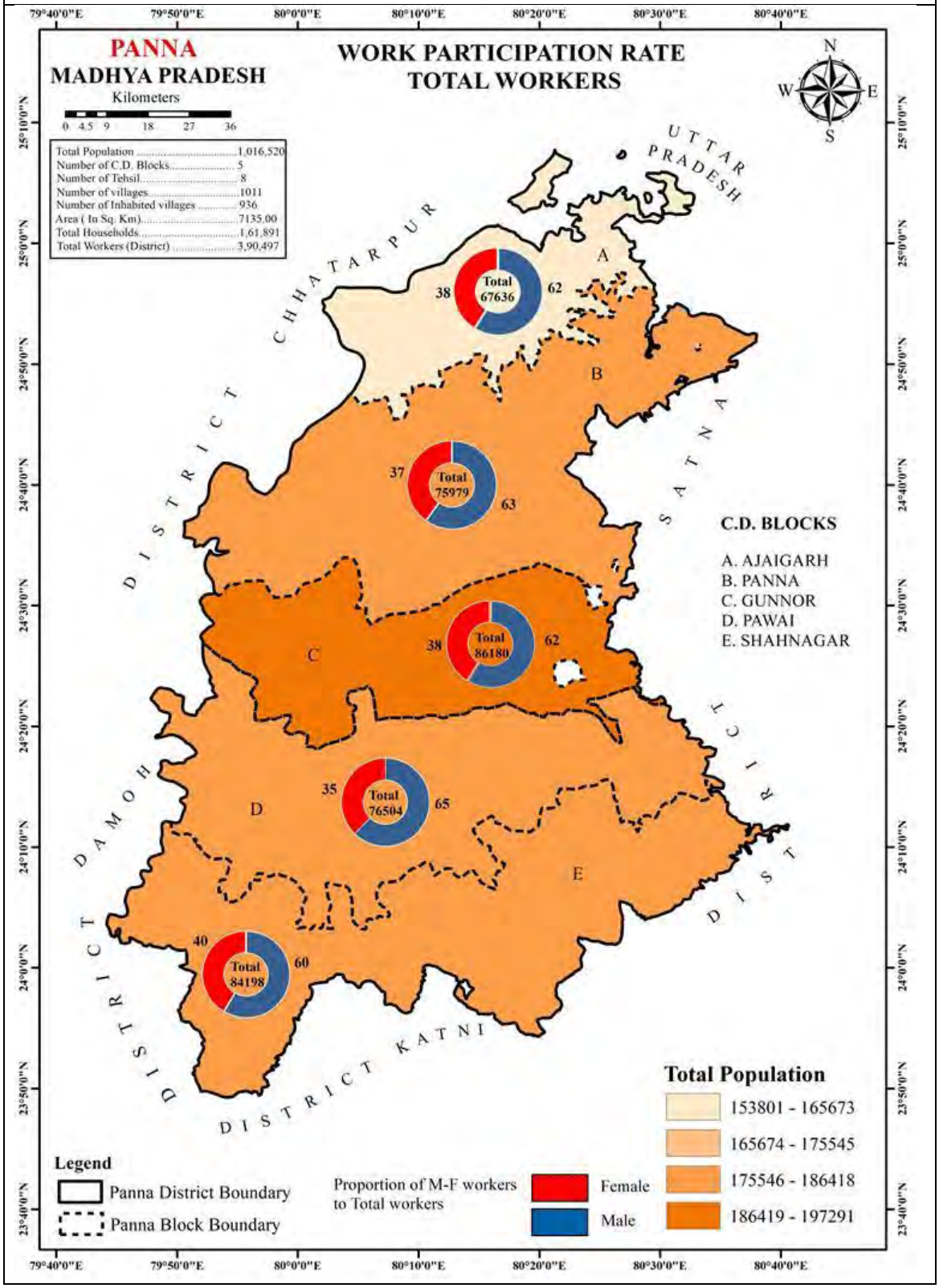
Work participation rate is an important indicator of active working population and also hints upon dependency or non-workers. Panna-Gunnor-Pawai share a similar trend as far as work participation rate is concerned in almost all the categories. Panna has 43% working population.



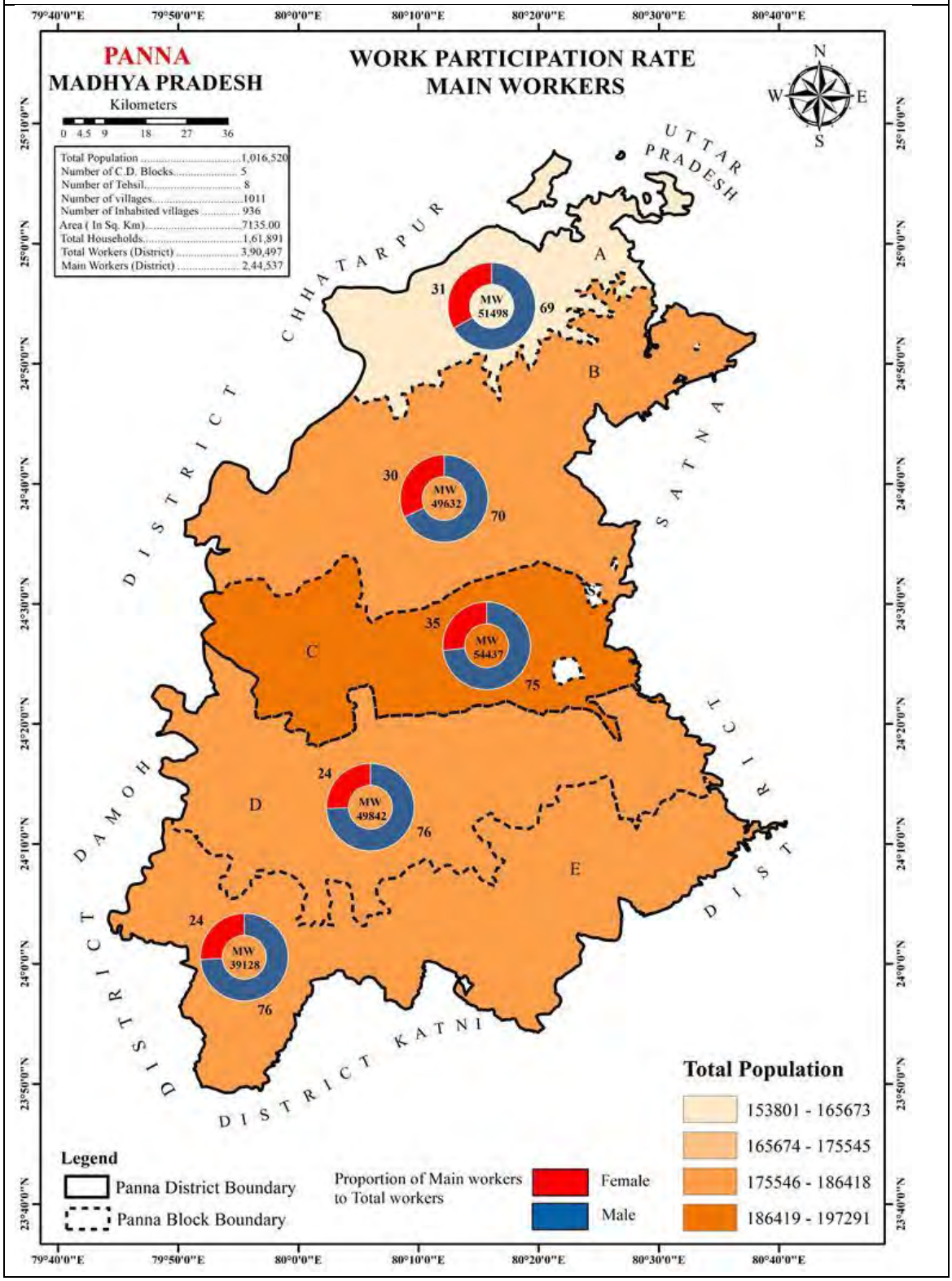
Ajaigarh and Shahnagar show a mix of ups and downs in certain work categories. Work participation rate of main and marginal workers in case of Shahnagar is the lowest among all blocks whereas the gap between main workers (male and female) widens by almost 20%, this is true for other blocks too. Shahnagar has a high work participation rate in marginal workers category. The only increase in women's work participation is seen in the marginal workers category among all the blocks and the rate ranges between 14-20% for all blocks except Shahnagar where the proportion crosses 25%. This may mean more marginal works available even for men too (as seen in the graph).

Now, let us look at the dependency amongst the workforce too. Here we try and see how many agricultural labourers are available per cultivator at the block level. But this has to be seen in conjunction with the land holding pattern also. The purpose of showing this is that in this region migration is high which may reflect certain relationships, especially where per capita agriculture labour is more per cultivator but if the demand for work is not met, people or such labour may migrate. Let us look what comes out of the data and analysed information.

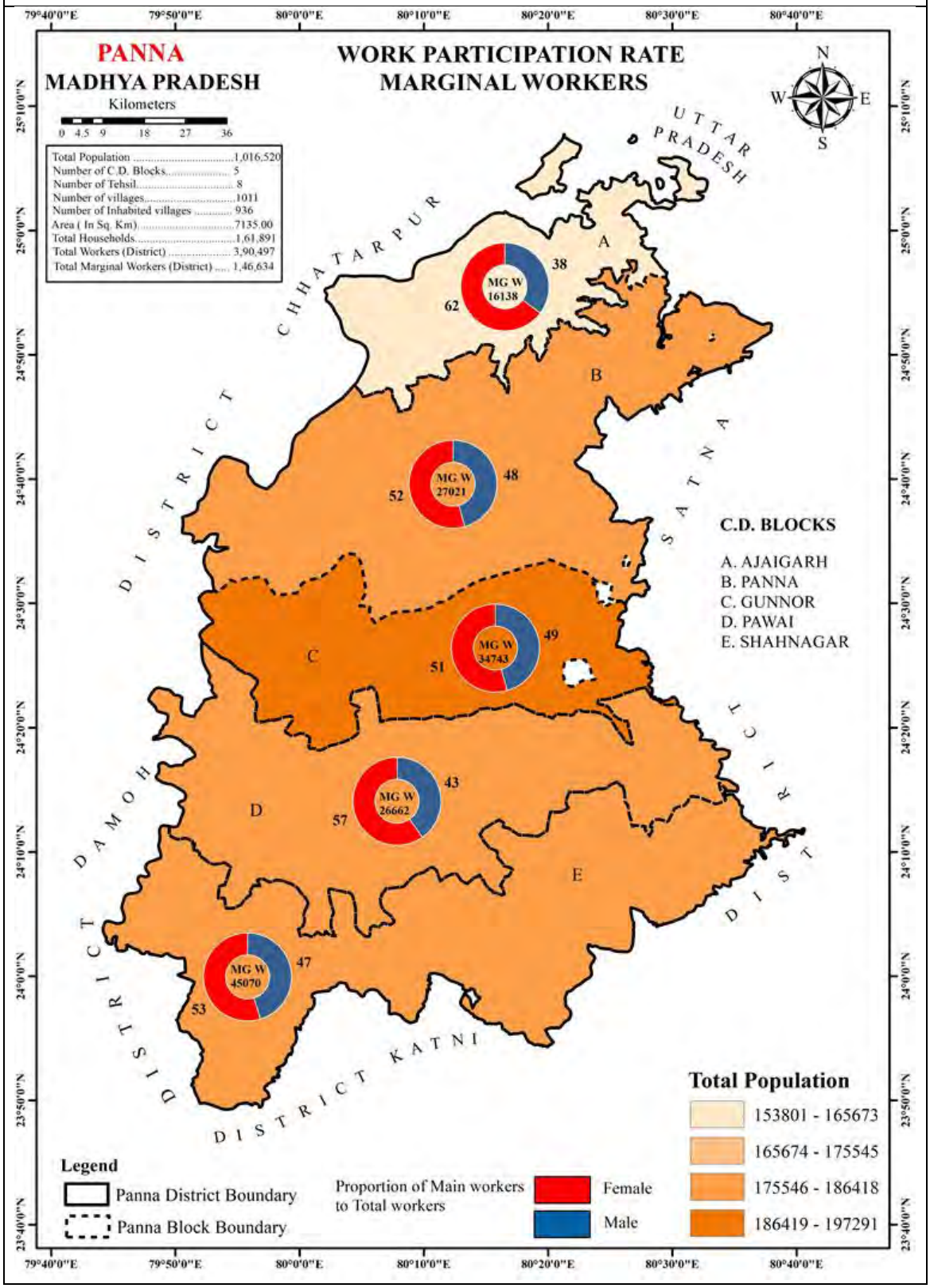
MAP 7 – WORK PARTICIPATION RATE, TOTAL WORKERS



MAP 8 – WORK PARTICIPATION RATE, MAIN WORKERS



MAP 9 – WORK PARTICIPATION RATE, MAIN WORKERS



AVAILABILITY OF AGRICULTURAL LABOUR TO CULTIVATORS

It indicates the level of availability or excess supply of labour per cultivator. But if the cultivator is unable to support the agricultural labourer due to circumstances beyond his control (climate change, unirrigated land etc.), the labour shift from agriculture to other casual labour or shift in geographical location (migration) might be the result. This becomes an important indicator for providing or planning employment.

Looking Level by Level

The Census of India classifies workers broadly into two categories as 'main workers', and 'marginal workers'. In the main workers category it is seen that except Panna, all the four blocks share a similar trend i.e. almost one labour per cultivator. As per census definition, main workers are those which get work for equal to or more than six months. When we look at marginal workers, there are two sub-categories viz. marginal workers which get work between three to six months and those which get work under three months. Seeing the table below, the ratio of agricultural labour increases multiple times in marginal workers category as compared to main workers category, the highest is for Panna i.e. 5.22 and lowest for Ajaigarh block at 2.14. This ratio marginally increases in the 3-6 month marginal workers category. But in the 0-3 months category, Panna and Shahnagar indicates more availability of labour per cultivator.

Blocks	Agriculture labour per Cultivator (Main Workers)	Agriculture labour per Cultivator (Marginal 3-6 month Workers)	Agriculture labour per Cultivator (Marginal 0-3 month Workers)
Ajaigarh	0.85	2.23	1.71
Panna	1.39	5.30	4.95
Gunnor	0.87	3.65	3.24
Pawai	0.92	3.76	2.52
Shahnagar	0.71	3.14	4.58

The trend shows decreasing ratio in marginal workers (less than 3 months of work) than those getting 3-6 months of work, except in case of Shahnagar where the reverse is true. The ratio is 4.58 in Shahnagar.

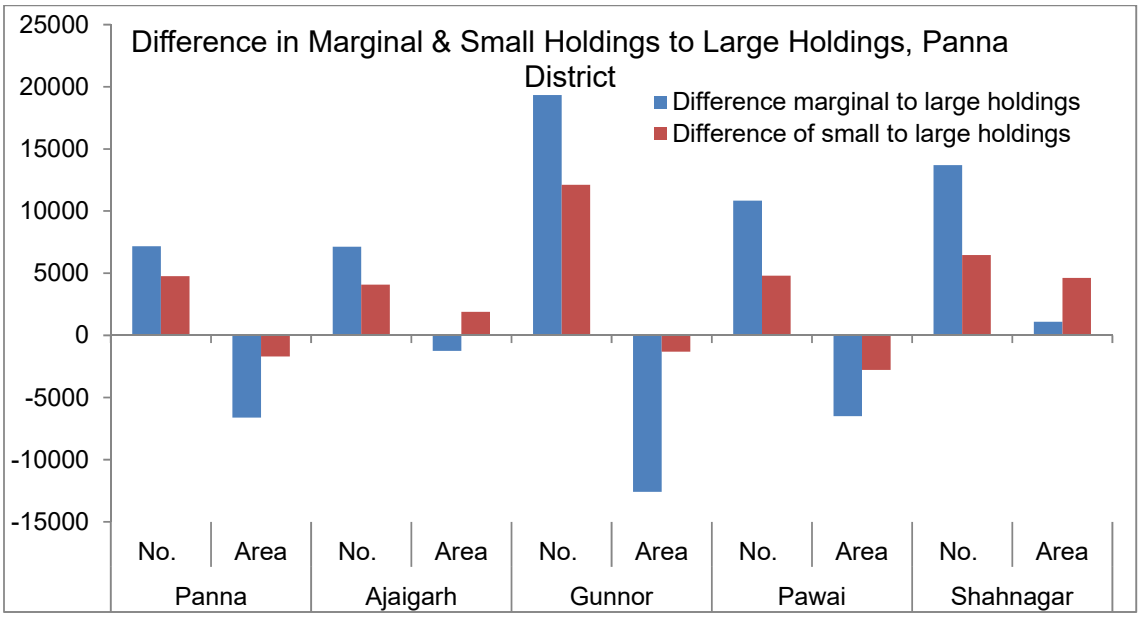
Maximum marginal land holdings (56.41%) are in Shahnagar followed by Pawai and Ajaigarh. Panna has the largest 7.96% land holdings in the large holding category (>4 hectare) whereas Shahnagar returns a figure of 3.93%. In both these blocks viz. Shahnagar and Panna, a commonality is scheduled tribe population – 30% & 26% respectively which is not seen in other blocks of the district. The high ratio represents more dependency on a cultivator and in case of large marginal landholders, only subsistence labour could be expected.

LAND HOLDINGS

Provides an overview of marginal, small, large holdings across the revenue tehsils and can be compared to availability of agricultural workers

The Ministry of Agriculture and Farmers Welfare through its Agriculture Census division conducts agriculture census in India on the operational land holdings in the country. It classifies land holdings into area slabs into marginal, small, medium and large holdings. In a way it can also be viewed as a method to understand land distribution. This also provides some preliminary information on inequity among different classes of land holdings. A simple method to highlight the difference is adopted. The difference between lowest class i.e. the marginal land holding numbers and area (<1 hectare) and the highest class i.e. large land holdings (>4 hectare) is seen. Similarly the difference between small land holding numbers and area (1-2 hectare) and large holdings is seen.

Negative figures (as the difference has been taken from the low class among the two pairs) reflect area under large land holdings which is in excess to marginal holdings. Positive figures in number of holdings and area indicate excess number and area of marginal land holdings than large holdings after the difference.



In order to understand inequity in terms of land holdings a simple difference measure was done between marginal and large land holdings; small and large land holdings. Number of land holdings are quite high in the marginal holding category whereas massive area differences get reflected in these two situations

Gunnor, Panna and Pawai are the blocks where probably excess labour might get absorbed from those blocks where lesser large holdings exist to support large

agriculture labour viz. Shahnagar has large marginal land holdings and probably the high number is due to that (4.58). So those blocks where land holdings in marginal category are in excess and where large holding area is less (as seen in Ajaigarh, Shahnagar) migration could be on the cards for such blocks.

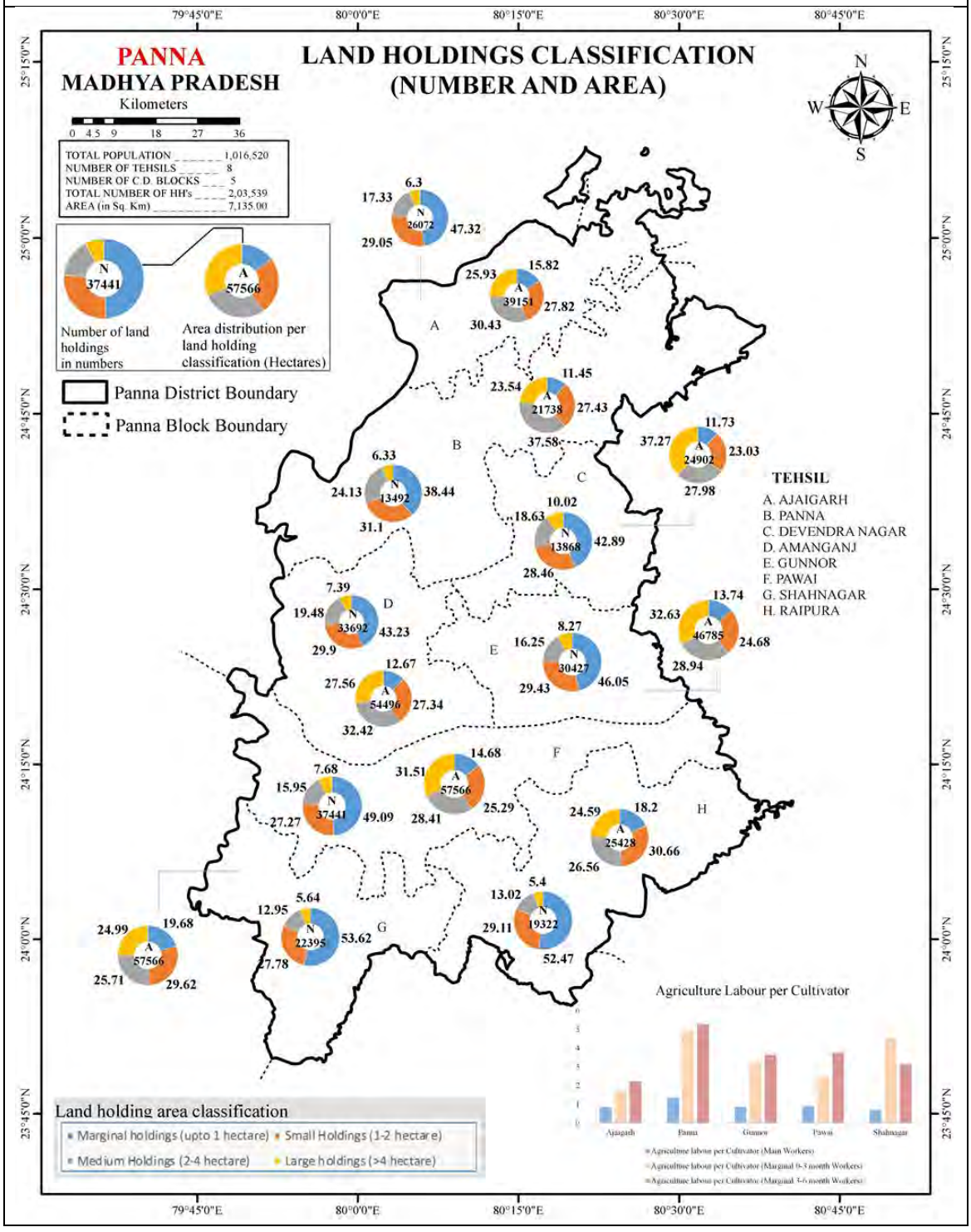
Panna being a district headquarter and has the highest per capita area under large land holdings might probably be supporting or inviting more workforce.

Tehsil Wise Snippets

Tehsils	Shahnagar	Raipura	Pawai	Ajaygarh	Gunnor	Amanganj	Devendranagar	Panna
Marginal	53.62	52.47	49.09	47.32	46.05	43.23	42.89	38.44
Small	27.78	29.11	27.27	29.05	29.43	29.90	28.46	31.10
	81.4	**81.58**	**76.36**	**76.37**	**75.48**	**73.13**	**71.35**	**69.54**

Shahnagar and Raipura Tehsils in Panna district have more than half of the total land holdings in the marginal category i.e. less than 1 hectare. Pawai at 49.09% is the close third. Panna is the only tehsil which shows less than 40% of land holdings as marginal. 46.64% is the average percentage of land holdings in marginal category. It is clear that the district has predominant marginal land holdings followed by small land holdings. Shahnagar's 81.4% land holdings (combine of marginal and small holdings) form 49.3% of total land holding area. Correlating with land holding pattern in Panna and looking at cultivator-agricultural labour ratio, it is no surprise that farmer with a marginal land holding will not sustain labour and will put his own effort into the field. Given the geographical and irrigation situation in the district, there is less likelihood of farm based employment and hence becomes a reason for migration to adjacent districts or outside the state.

MAP 10 AGRICULTURAL LABOUR TO CULTIVATORS



HOUSEHOLDS ENGAGED IN MGNREGA[3] WORK

Reflects proportion (minimum and maximum) of households engaged in relative duration of work and workdays generated.

MNREGA Background in Madhya Pradesh

18 districts of Madhya Pradesh were brought under The National Rural Employment Guarantee Act w.e.f 2 February 2006 which forms the first phase. In the second phase, 13 more districts of the State were included form 1 April 2007 and the remaining 19 districts were included from 1 April 2008 in the third phase. NREGA guarantees at least 100 days of work in a financial year to those adult rural households who volunteer to do unskilled manual work. It is the right of a household to get registered with the Gram Panchayat and seek employment.

NREGA becomes an important component of wage employment as substantial wage expenditures are reported under it. For the current financial year (2018-19) in Panna, the expenditure incurred till January 2019 is Rs. 6776 crore, thereby generating 2.5 million workdays. This provides a macro picture. To take a look at district level, let us look at the forthcoming sections.

NREGA in Panna

Maximum number of households (23.36% = 12,147) got 15-30 days of work which contributed to overall 12.59% workdays and when combined with 0-15 days category a different picture emerges altogether – 45.36% households and only 17.26% of workdays generated. In contrast 34.17% of workdays among 16.27% households appear in the bracket of 81-90 days i.e. almost three months.

NREGA Across Development Blocks				
Blocks	**% Households got work for 30 days**	**% workdays generated (30 days)**	**% Households got work for 81-90 days**	**% Workdays generated (81-90) days**
Shahnagar	50.89	20.25	15.07	34.33
Ajaigarh	49.93	19.24	16.96	37.30
Gunnor	43.64	16.65	18.00	36.44
Panna	42.66	15.32	18.81	37.36
Pawai	38.21	14.47	13.73	27.10

In case of Panna, average 45.07 % households got work from 1 to 30 days, with an overall workdays consumed in this category at 17.19% whereas 16.51% of households in 81-90 days of work consumed a little more than 1/3rd of workdays. In case of Chattarpur, variation is seen atleast in the 1-30 days work where 39.14 % of overall households consumed 14.15% whereas the 81-90 days category is

[3] MGNREGA data accessed in January 2019 from the NREGA portal

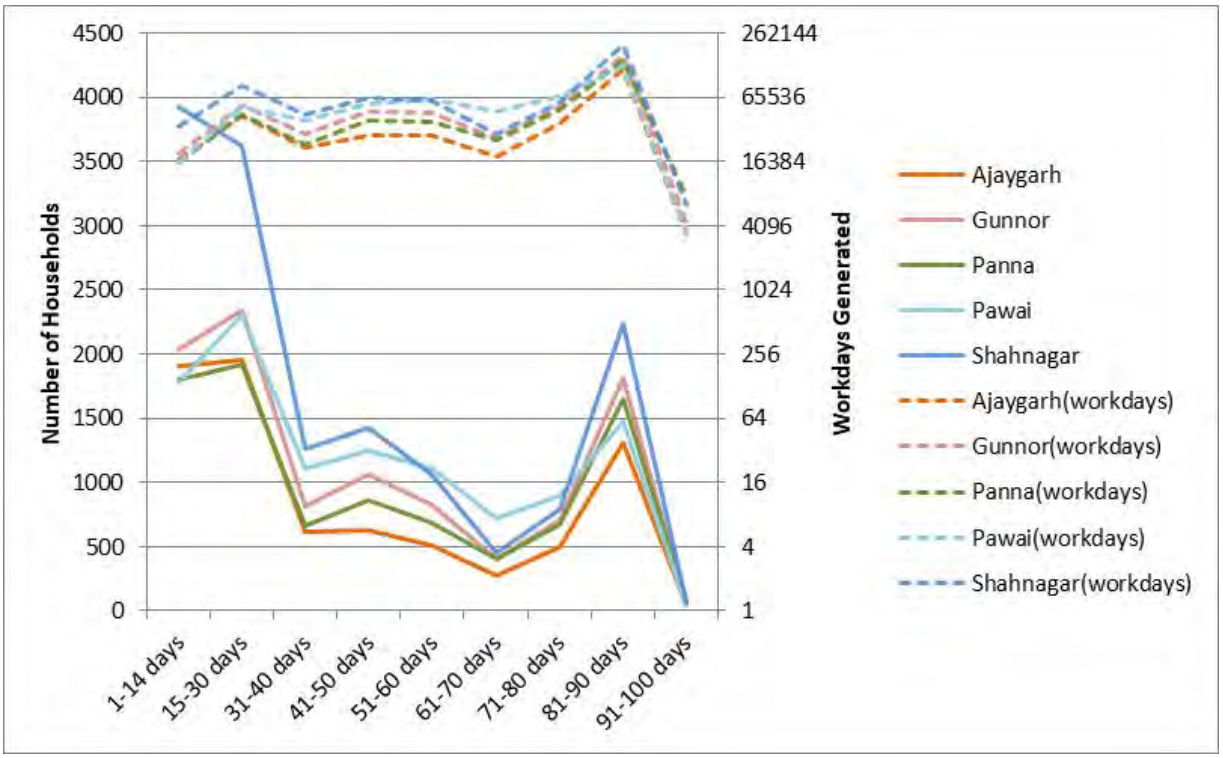
comparable to Panna. All blocks in Panna, except Pawai generated more than 1/3rd of workdays.

Duration	% HHs	% Workdays
1-14 days	21.73	4.63
15-30	23.33	12.55
31-40	8.51	7.1
41-50	9.96	10.54
51-60	8.04	10.58
61-70	4.37	6.67
71-80	6.98	12.09
81-99	16.51	34.51

Proportion of households engaged in MGNREGA to total households in a block			
District Panna	Total HHs	Households Worked in MGNREGA	Percentage of Households Worked
Shahnagar	44119	14827	33.61
Pawai	41912	10682	25.49
Gunnor	44066	10046	22.80
Panna	38732	8725	22.53
Ajaigarh	34710	7723	22.25
Total	**203539**	**52003**	

Shahnagar block in Panna district had the maximum proportion of households getting some form of work under MGNREGA irrespective of the duration of work (table above). The overall average number of households engaged in MGNREGA work in Panna District is between 23% to 25%.

Graphical Representation of Households worked in MGNREGA and workdays generated (in days)

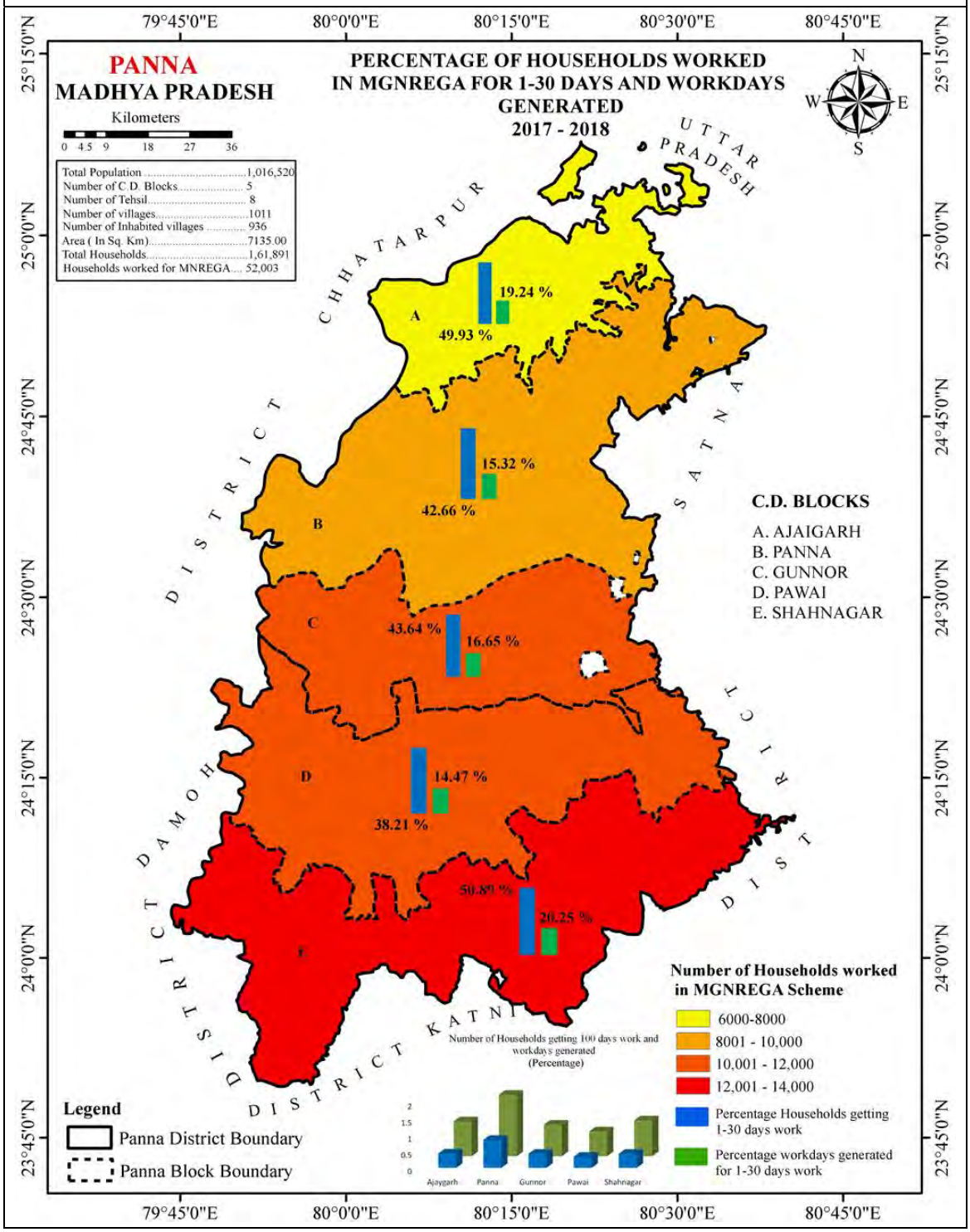


Note: Workdays secondary vertical axis is shown with log scale due to large values in comparison to relatively low values on the primary vertical axis (Number of households). Number of households represented by solid lines and workdays generated by dashed lines

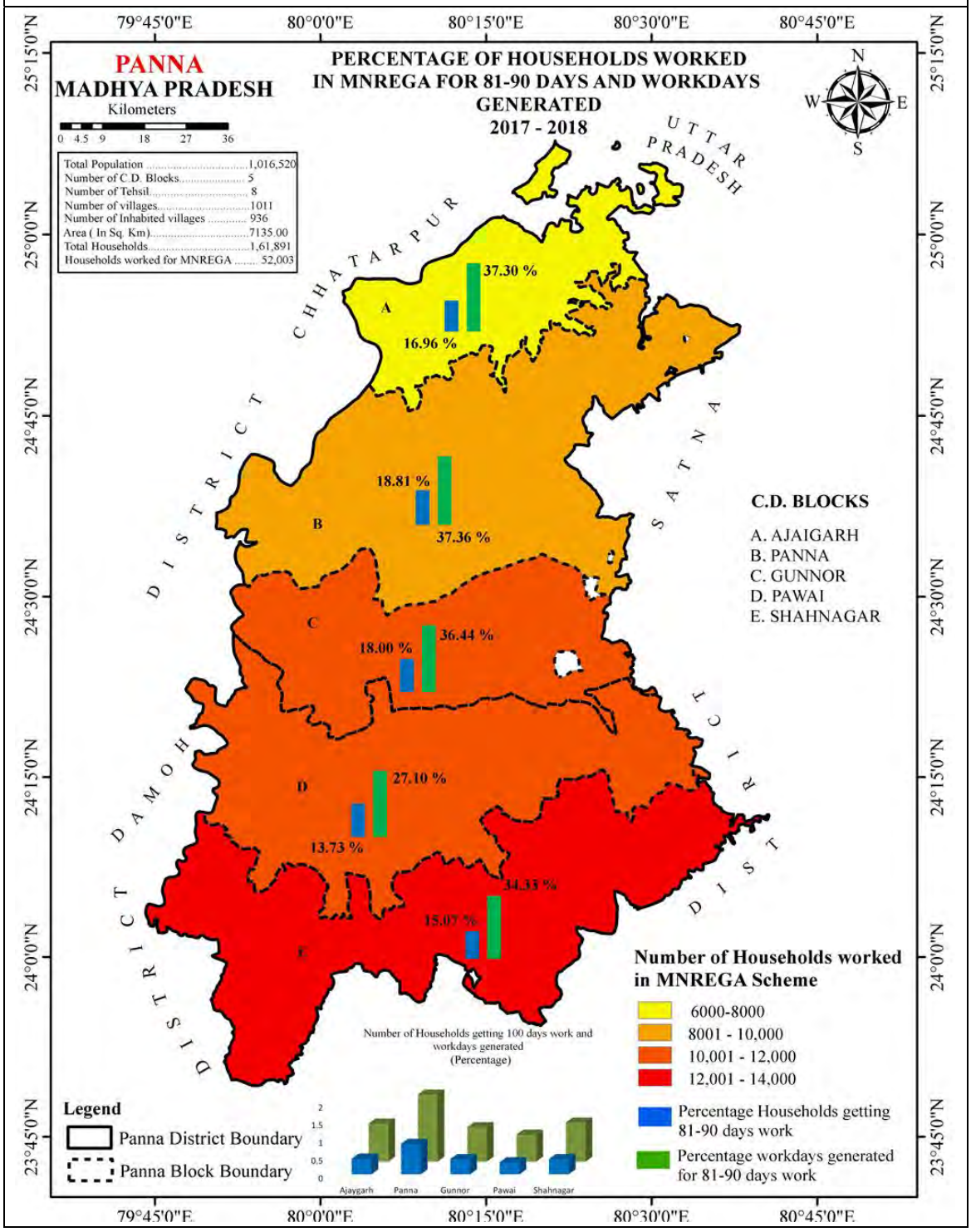
One can clearly see peaks relative to the primary vertical axis indicating more households engaged in work range from 1 to 30 days with comparatively lesser workdays generated whereas less households got work for 81-90 days duration which stood at 34% of the total workdays generated under the programme. NREGA was conceptualised to provide local employment to households and arrest migration trend from the villages by providing 100 days of work. But 100 days work is almost negligible in both Panna and Chhatarpur, Only 254 households out of the total 52003 households who worked under NREGA got 100 days work in Panna District.

This goes on to show that the scheme is not meeting its desired objective and thus requires comprehensive assessment and auditing to understand the various trends and bottlenecks. It would also be pertinent to understand the strong link between migration due to employment and poor implementation of NREGA.

MAP 11 – PERCENTAGE OF HOUSEHOLDS WORKED FOR 1-30 DAYS AND WORKDAYS GENERATED

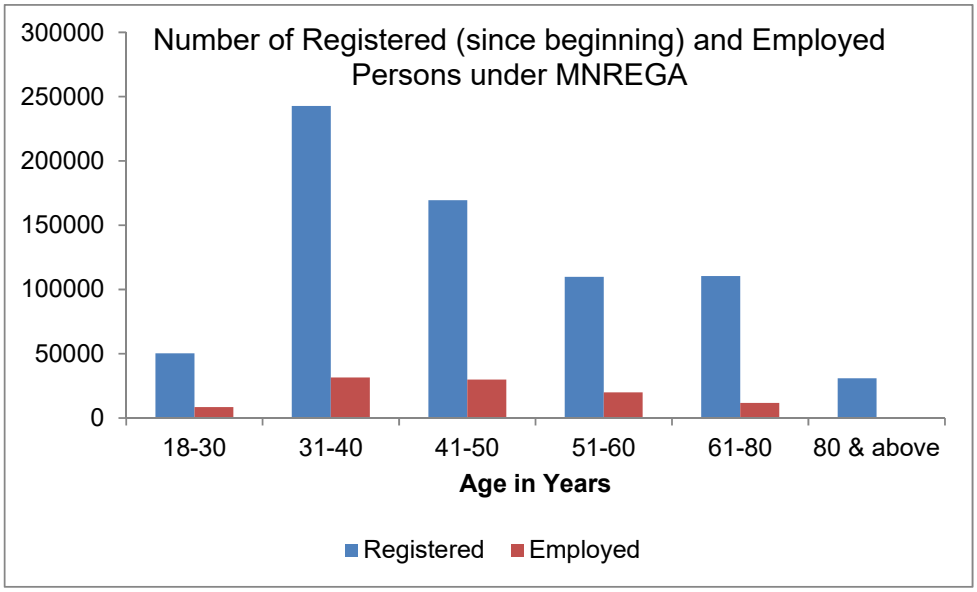


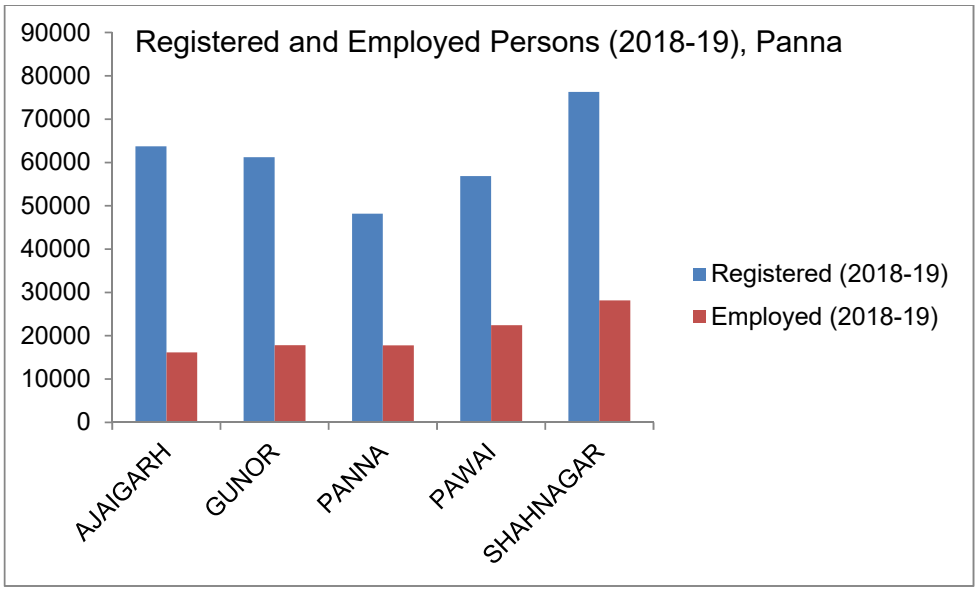
MAP 12 – PERCENTAGE OF HOUSEHOLDS WORKED BETWEEN 81-90 DAYS AND WORKDAYS GENERATED



As per NREGA guidelines, 60:40 labour material ratio has to be maintained and thus the works so designed have to be meticulously planned so that quality do not suffer and on the same hand more people are also employed. In case of Panna, out of 24,608 works 12,482 works were those where labour-material violation was observed as per the portal statistics in 150 Panchayats. 17% violations were those where material ratio exceeded from 61% to 80%

As far as diversification of works under NREGA is concerned, there have been interventions at the policy levels, like work on individual lands, primacy to work related to water conservation over other line infrastructure. Most of the works (92%) are under 'works on individual lands' in Panna.





Its seen clearly in the Chart above that those cumulatively registered (since the beginning) in the age group from 18-50 years form 65% registrations. Among the employed, 66% were those who belonged to the same age grouping.

Looking at the current financial year (2018-19), a total of 3.06 lakh people (1.3 lakh households) got registered, eventually job cards to 1.28 lakh households were issued. As per figures available on the portal, employment was demanded by 1.4 lakh persons but actually 1.02 lakh were provided employment. Only 1% of the households got 100 days of work.

One lesson that has to be taken is whether large number of registrations are due to lack of advocacy and communication issues due to which people even not eligible are applying or whether high registration indicates a real demand for work but not adequate work is provided? These are questions to be understood so that a right perspective can be drawn and changes made.

Another aspect is of qualitative assessment of NREGA assets created under the scheme. A regular social audit will go a long way in strengthening the sustainability issues involved in social and physical aspects of the scheme.

Health is wealth is an old saying but the diversity of occupations and lessening quality of environment has created challenges towards community health. Community health management is a challenging and responsible task. The structured framework of rural health care was meant to deliver for communities but with multiplicity of issues ranging from low budgeting, low wages, availability of skilled staff etc. has only hurt the community health.

In one of the recent articles in EPW, this structure is defined with threshold values and thus provides a close understanding.

Primary healthcare services, which are provided at the base of the pyramid, have lower operational costs and can act as screening centres for referring patients to higher-level facilities, where operational costs are higher. The pyramidal structure also ensures to a larger section of the population of the country, as adequate healthcare services at lower levels reduce the requirement of patients to travel long distances to access higher-level health facilities. Broadly there is a consensus on the effectiveness of a larger volume of health services provided at the lower levels of health services (World Bank 1994; WHO 2008; Doherty and Govender 2004).

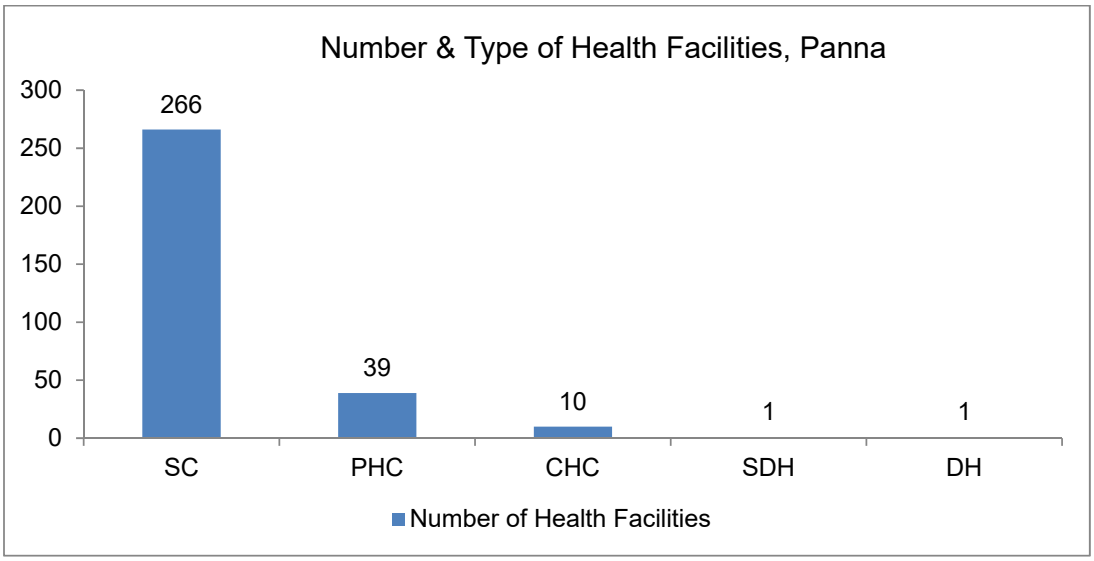
Five broad tiers constitute the pyramid of the public health system in any state in India. The first tier at the bottom of the pyramid is the ‘sub-centre’, which is the first point of contact between the community and public health system. A sub-centre has two or three paramedical personnel, who deal with primary health-care, and it normally services a population of 3,000-5,000. The second tier of the public health system is the PHC, which is the first point of contact of the community with a doctor. A PHC acts as a referral unit for six sub-centres and is required to have among others, one or two doctors, one to three staff nurses, a laboratory technician and a pharmacist, as per the Indian Public Health Standards.

The PHC service a population of about 20,000-30,000 on average, and usaually have four to six beds. The sub centres and the PHCs together form the core of the primary healthcare system. The third tier of the public health system is the CHC, which acts as a referral unit for four PHCs and is the first tier of the secondary healthcare system.

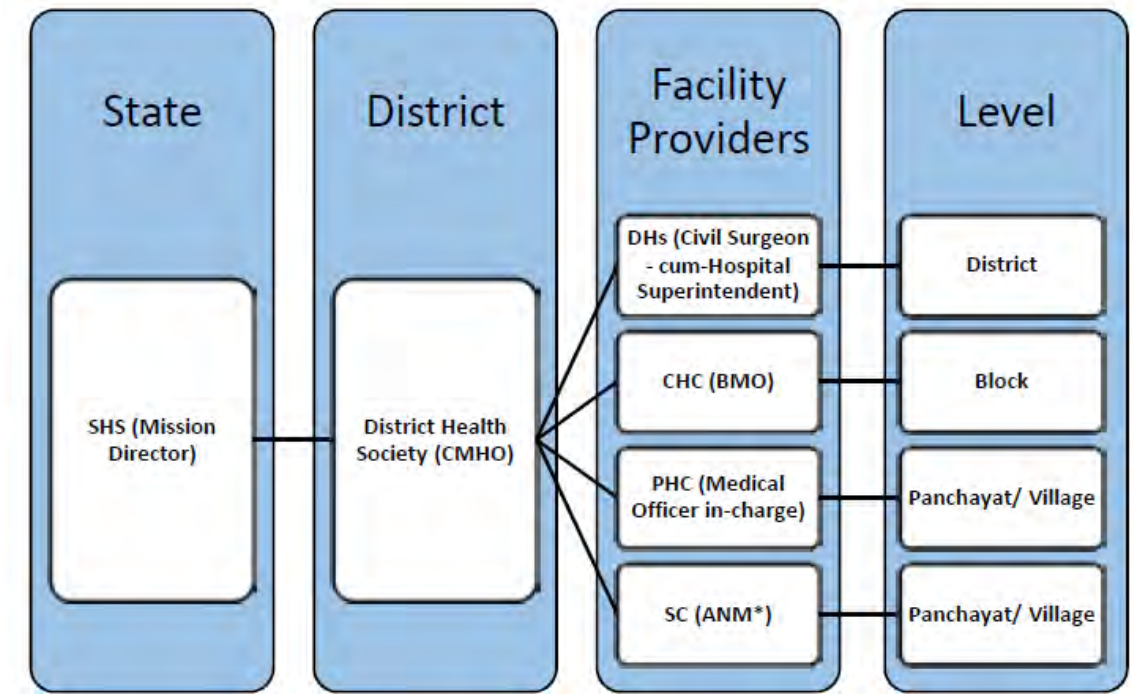
A CHC is required to have specialists, including a surgeon, a gynaecologist and a paediatrician. It has around 30 beds and is provided at the rate of one per 80,000-1,20,000 population. The fourth tier of the health system is the sub-district hospital. These hospitals are usually larger than CHCs and consist of upto 100 beds. The next tier is the district hospitals, which form the highest tier of the health system in any district. The district hospital, the sub-district hospital and the CHCs together form the secondary healthcare system in any state. The tertiary healthcare system lies

above the district and includes medical colleges, tertiary level hospitals and hospitals for specialised care, like tuberculosis and cancer hospitals.

Health Structure and Associated Facilities



Indicators best describe the situation, especially in terms of health because already the international bodies like UN/WHO have outlined the threshold values, say MDGs. In case of health the following structure prevails more or less at the State level with some variations across states.



Source: Adapted from CAG report on General and Social Sectors, Report No. 3, 2017

Health is a specialised field and due to its hierarchical nature of service, its registry and data availability is pooled at block level, essentially the data pertaining to child and mother health. As most of the indices are calculated per thousand or per lakh of population, it is best represented at block level which is a conglomerate of many Panchayats. Data from the village level is not accessible over the web and to best describe a district in terms of its health, is the Health Management Information System (HMIS) which is a central repository of information collating information every month.

Averaging of health indicators at the district level distorts the outlook whereas looking at the health indicators atleast at the block level provides a micro picture. On an average each block has villages in the range of 125-150 which is still a large geography in itself. The data in the subsequent tables will be useful to understand health indices across blocks. The average at district level doesn't tell about inter-block variations and thus provides a cumulative figure whereas intervention requirements may be spatially varying. The reasons could be many viz. level of health service, recruitment of staff, spatial distribution of health facilities and relative transportation infrastructure to reach them.

Number of Panchayats and Villages in Blocks		
Blocks	**Panchayats**	**Villages**
District Panna	***395***	***952***
Ajaigarh	65	118
Gunnor	83	221
Panna	81	195
Pawai	82	201
Shahnagar	84	217

Table H – Live Birth and Death Statistics

	Infant Deaths				Maternal deaths	Live Birth male	Live Birth Female	Total live births	Number of newborns weighed at birth#	Number of newborns having weight less than 2.5 kg
Panna	Numbers	0-4 weeks	1-12 months	1-5 years						
Panna District	*768*	*544*	*224*	*204*	*30*	*10085*	*9343*	*19428*	*18883*	*3036*
Devendranagar (Panna)	373	290	83	88	10	3064	2873	5937	5818	1417
Shahnagar	95	66	29	30	7	1363	1351	2714	2683	325
Pawai	105	56	49	46	4	1749	1530	3279	3147	372
Ajaigarh	100	62	38	28	3	1755	1658	3413	3223	420
Gunnor (Amanganj)	95	70	25	12	6	2154	1931	4085	4012	502

Note: # number of newborns weighed is 97.19% of live births.

The analysis is based on the District's block level health statistics from the HMIS. Infant mortality rate is defined as the number of infant deaths occurring within a specified year per 1000 live births. These statistics are estimates as these are based on 'reported' live births and similarly infant deaths. Due to several cultural and misbeliefs, some of the birth and death statistics might be underreported and hence present some deviation from the available/reported numbers. The indices tend to be on a higher side from what is reported. Panna is one of the 57 common districts featuring in top 100 districts in order of IMR.

As per Madhya Pradesh state MDG report (2014-15), IMR based on 2012-13 data at district level was 95. No inter-block variations were available which could have provided a comparative picture. The data utilised from HMIS and analysed for IMR, NNM[4], PNNM[5] is presented below.

The inter block variations are seen, Panna or Devendranagar has a IMR of 63 whereas Gunnor has an IMR of 23. The whole issue in infant mortality rate is more deaths within the first 4 weeks of birth i.e. neo-natal mortality which may be due to lack of attention required for the newborn, lack of facilities and underweight. In case of Panna District, the neo-natal mortality is a major contributor to infant deaths (average 70% deaths occur in 0-4 weeks of birth of newborn).

The Goal 4 of the Millennium Development Goals (2015) 'Reducing Child Mortality' is to reduce under 5 child mortality by 2/3rd from the level of 1990 through 2015. In 1998, the U5M was 138 in Madhya Pradesh which showed a decline of 55 in 2012 (U5M of 83) and it was estimated that the state will end up the MDG target at 49. In case of Panna, the U5M based on the 2017-18 data is 50, the inter block variations remain – under five mortality at Panna block is 78!

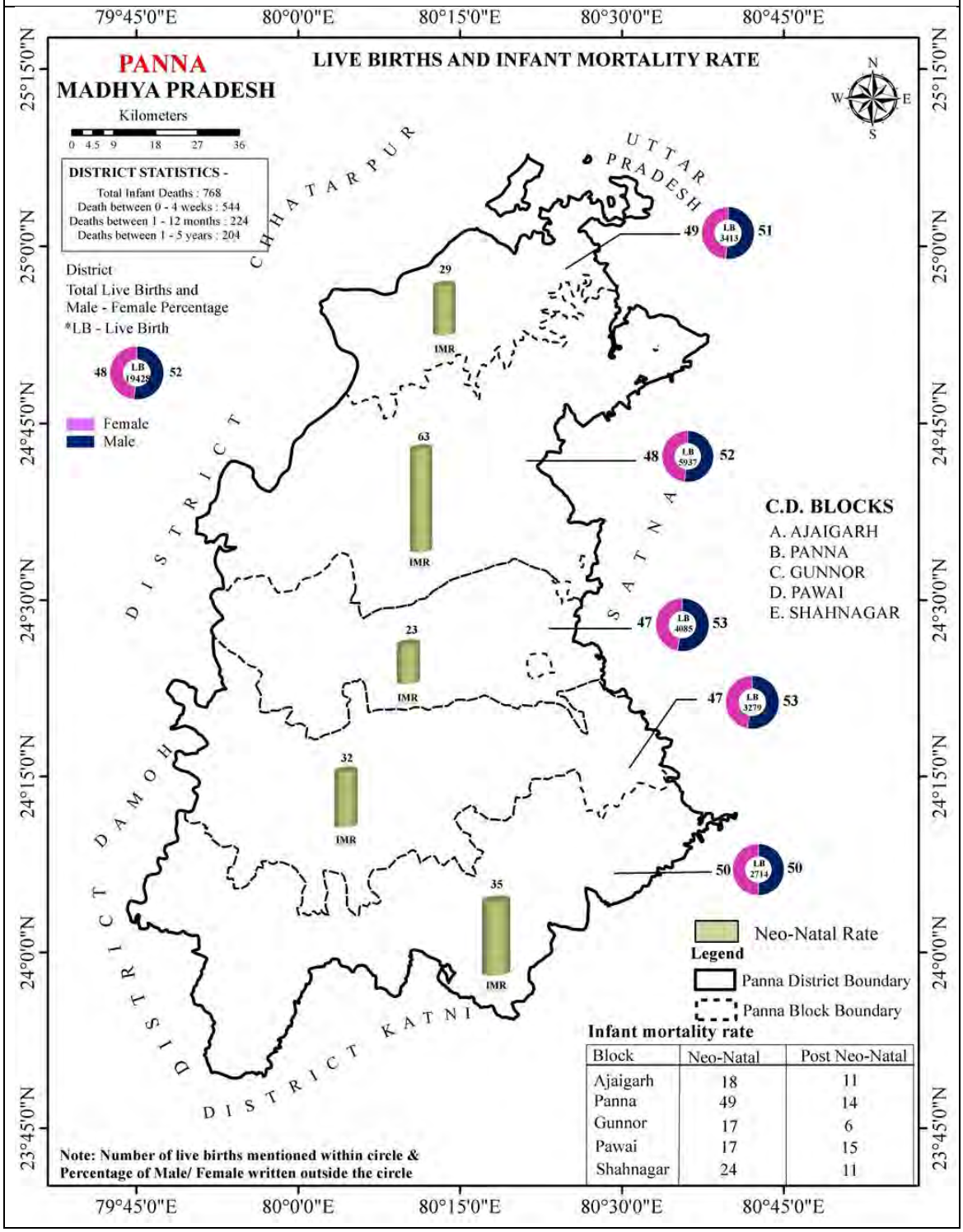
Bundelkhand has been notoriously been in the news due to its recurring malnutrition deaths and Panna stands out as one of the potential case. Earlier, low birth weight (2016-17) was considered as an indicator of 'cause of death' among many other reasons but it is no more reported as such. The average proportion of underweight new-borns in all blocks except Panna is around 13 percent, in Panna it is 24%. Panna being the seat of the District headquarters reflects a poor state of health in all the health indicators like IMR, U5M, Underweight newborns. As per 2015-16 data, the total number of deaths (1 week to 5 years) was 463 and out of this 21% or 97 deaths were reported, the reason for which was low birth weight.

[4] Neo Natal Mortality (0-4)
[5] Post Neo Natal Mortality (1-12 months)

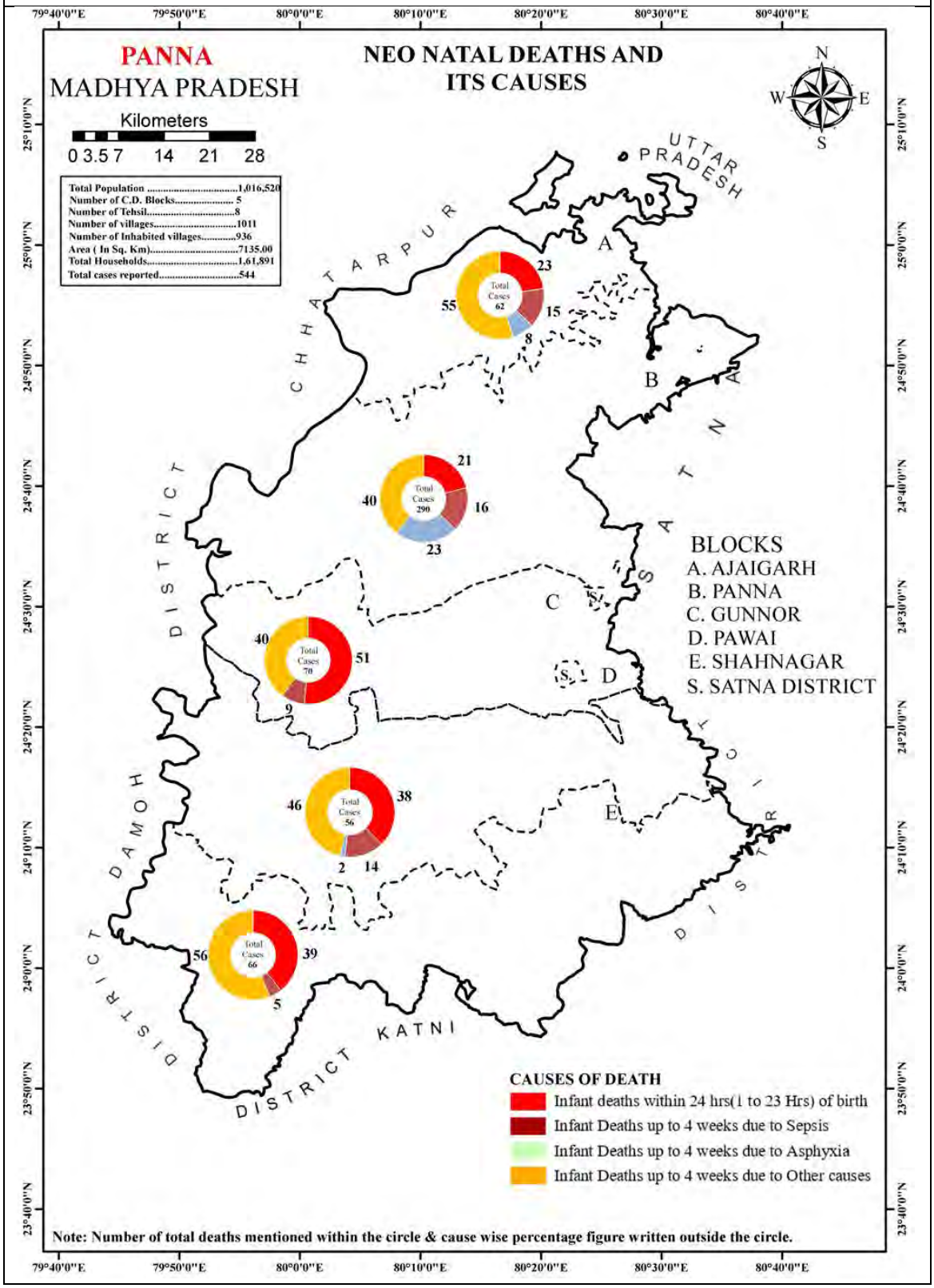
Table – H Health Indices, All Blocks, Panna District						
Panna	IMR 2017-18	IMR 2012-13	Neo-natal mortality	Post Neo-natal mortality	Proportion of Underweight newborns at birth to the total newborns weighed	Under 5 Mortality
Panna District	*40*	*95[6]*	*28*	*12*	*16*	*50*
Devendranagar (Panna)	*63*		*49*	*14*	*24*	*78*
Shahnagar	*35*		*24*	*11*	*12*	*46*
Pawai	*32*		*17*	*15*	*12*	*46*
Ajaigarh	*29*		*18*	*11*	*13*	*38*
Gunnor (Amanganj)	*23*		*17*	*6*	*13*	*26*

[6] As per CAG Report No. 5, 2017 IMR was 85

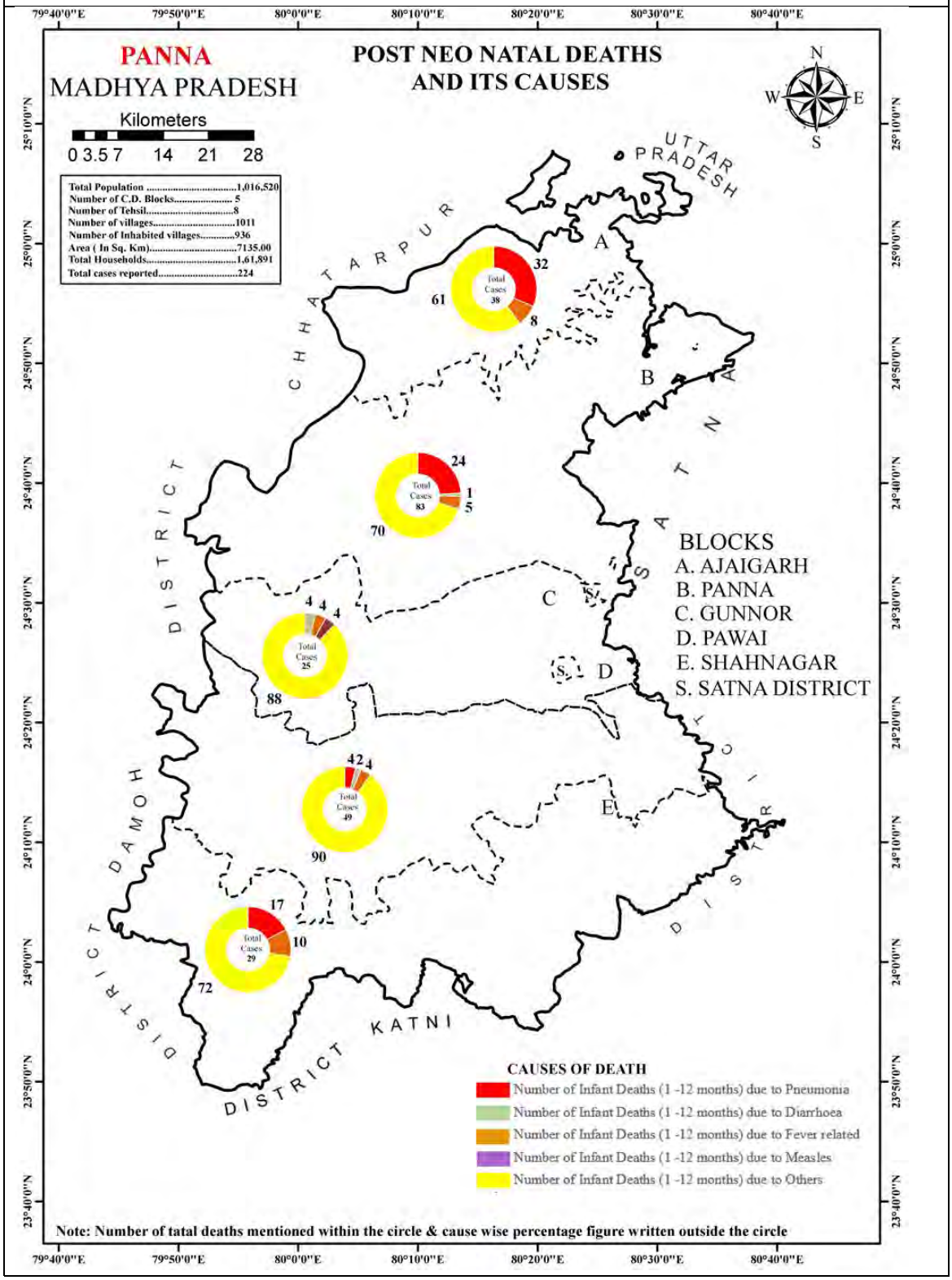
MAP 13 – INFANT MORTALITY RATE AND LIVE BIRTHS



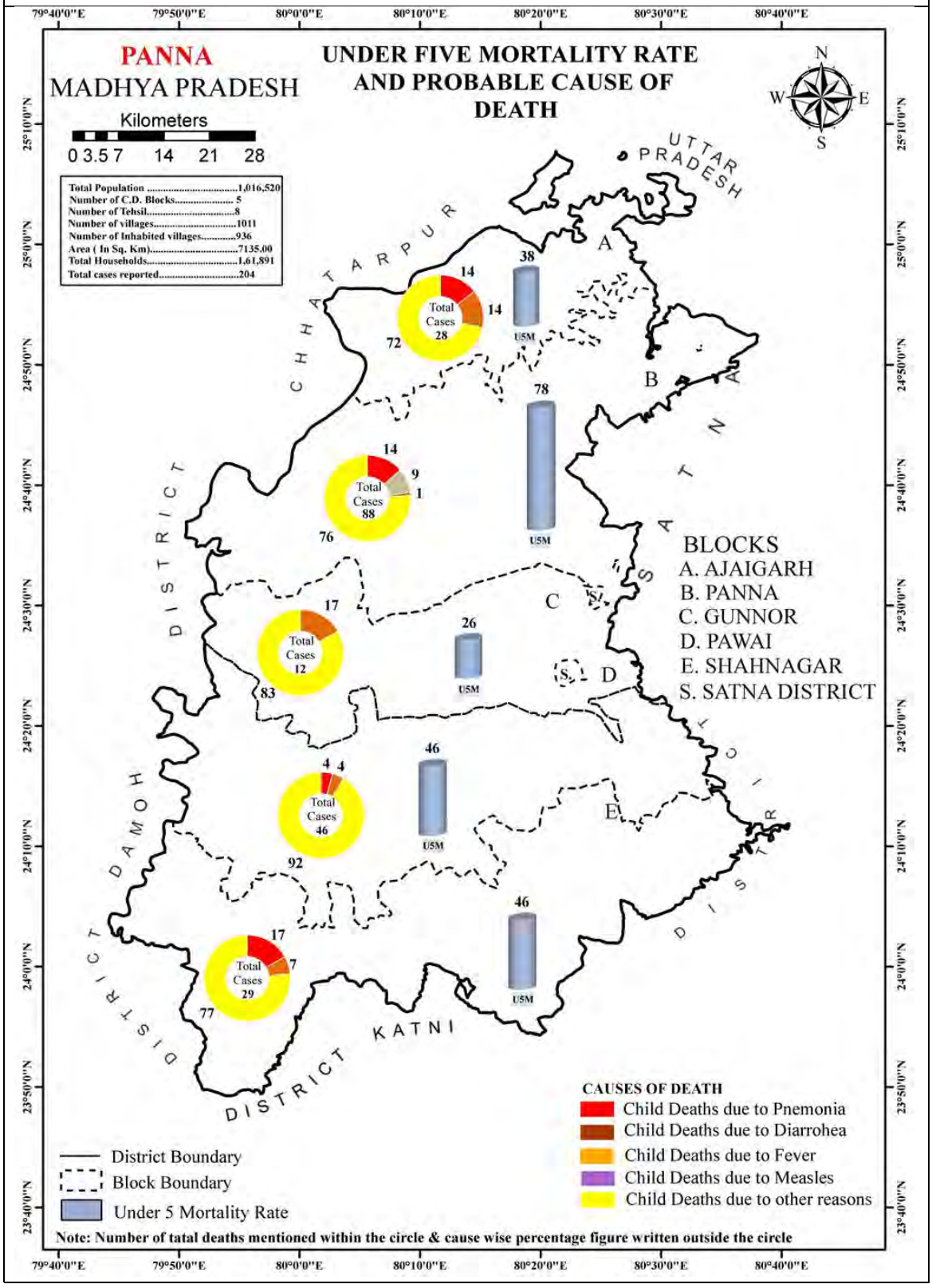
MAP 14 – NEO NATAL DEATHS REPORTED WITH CAUSES



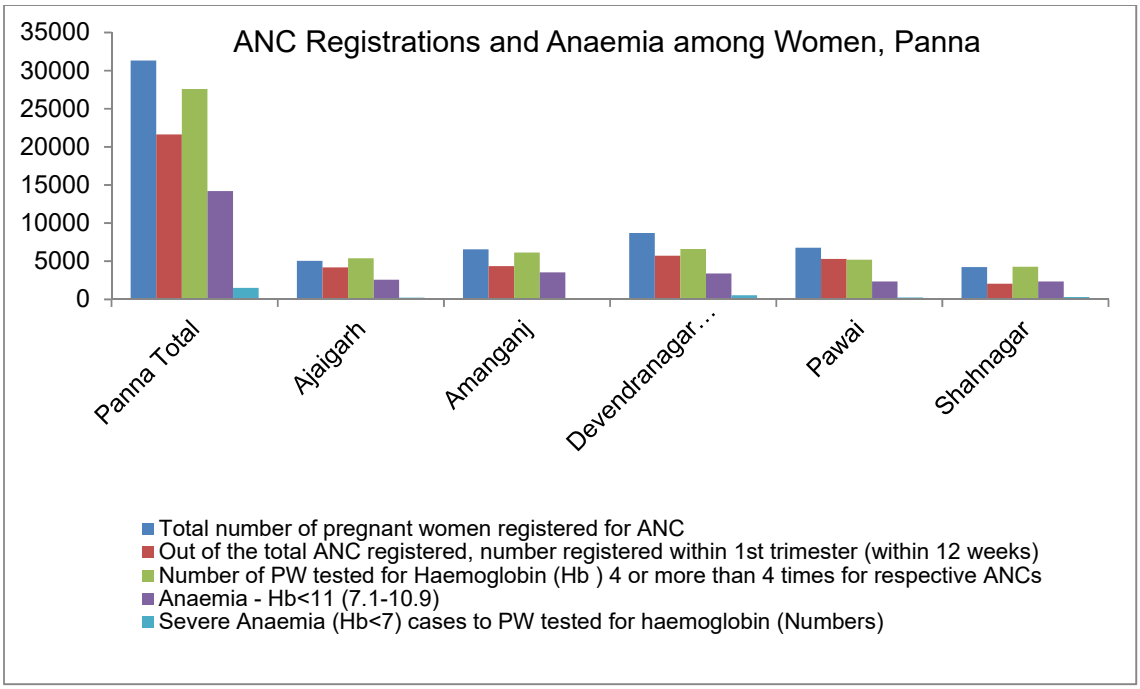
MAP 15 – POST NEO NATAL DEATHS REPORTED WITH CAUSES



MAP 16 – UNDER FIVE MORTALITY AND CAUSES



Ante natal care (ANC) links woman with formal health system, to monitor the progress of foetal growth and to ascertain the well-being of the mother. More percentage of pregnant women getting registered in the first trimester of their pregnancy is considered better for the mother and the child.



Shahnagar blocks showed the lowest ANC registrations at 48.17% in 2017-18 and Ajaigarh showed the highest at 83.18%. It is worth mentioning that the MMR in Shahnagar block was 258 derived from the data of 2017-18 (HMIS Portal) – the probable reason for this could be low ANC registration.

Relative Anaemia cases among women hovers at an average of 45.35% at the district level and variations are seen among blocks – Gunnor (57.66%), Shahnagar at 54.73%. In terms of severe anaemic cases it is the highest in Panna (8.10%) and 7.21% (Shahnagar). The percentage of <11 and <7 haemoglobin is from the number of women tested for haemoglobin for four or more than four times for respective ANCs.

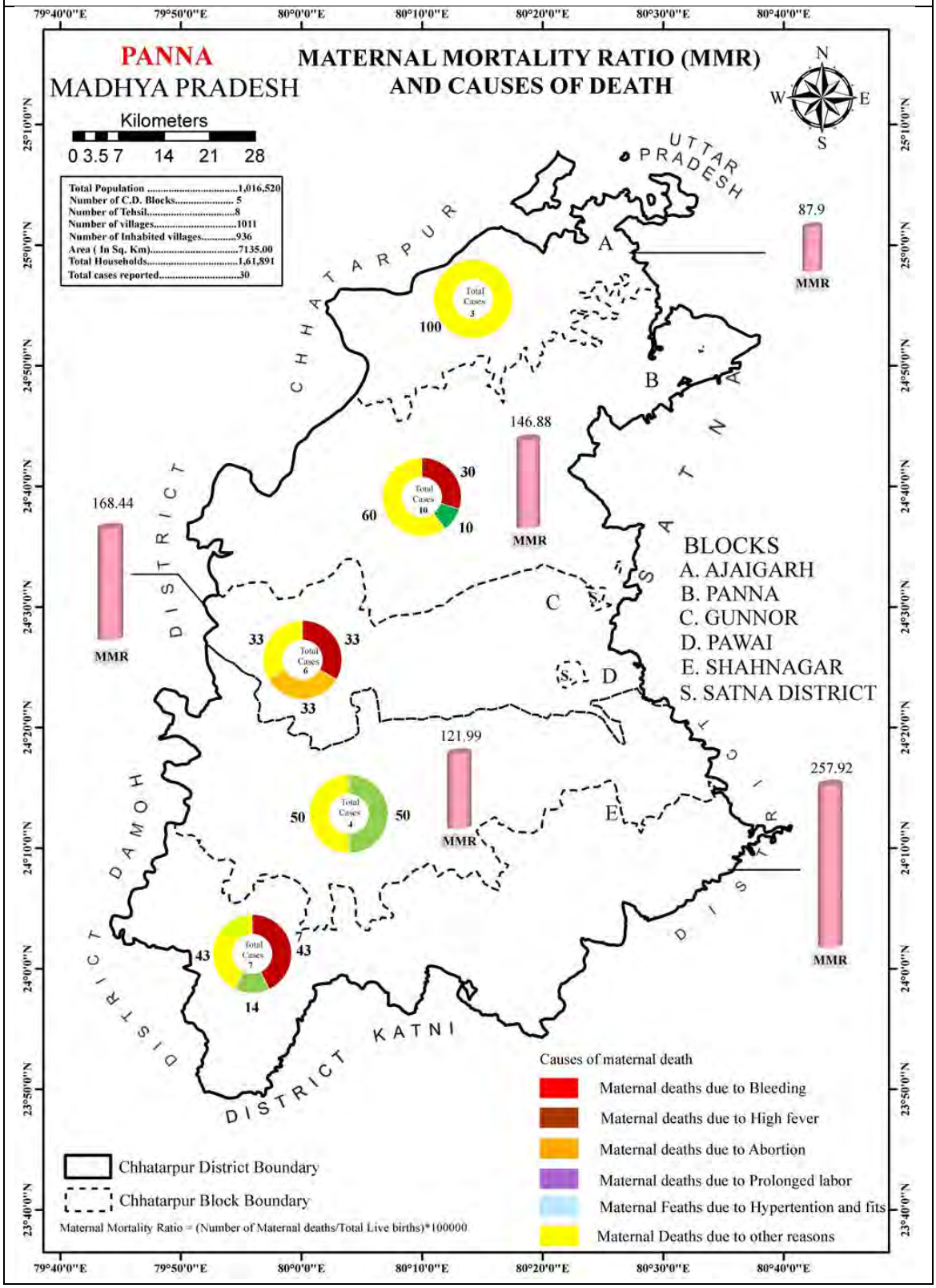
Poor return rate of treatment of anaemic cases is seen across all the blocks except Panna (Devendranagar) where it shows up a figure or 69.53% whereas it is as low as 5.5% in Shahnagar.

More pregnant women registering for ANC in their first trimester are supposed to stand a better chance of lesser complications than those who don't.

Institutional deliveries

Total 19,508 deliveries were reported from Panna in 2017-18. High percentage of institutional deliveries took place in Panna, >80%.

MAP 17 – MATERNAL MORTALITY REPORTED WITH CAUSES



Childhood Diseases

In HMIS, a total of 13 diseases are reported, diarrhoea is the commonest of the diseases followed by pneumonia and upper respiratory infections. Severe acute malnutrition (SAM) is another reported parameter which presents a broad reported malnutrition cases.

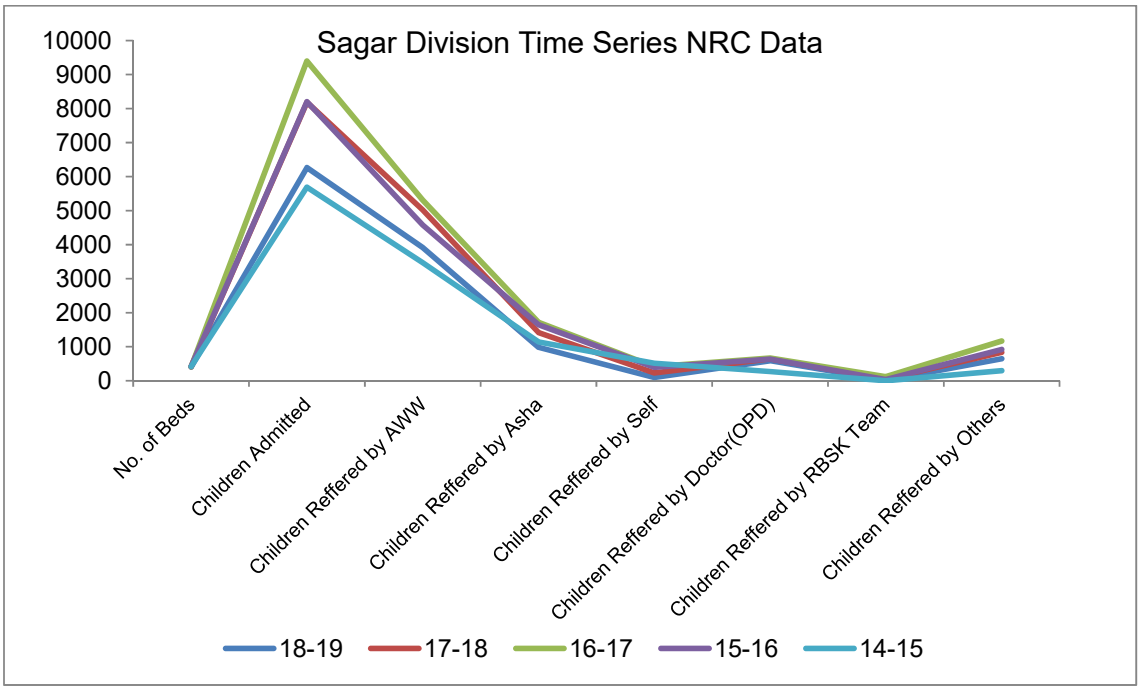
In Panna SAM[7] is reportedly more in comparison to the adjoining Chhattarpur District. In Panna reported SAM cases are 651 whereas in Chhattarpur the number is 133.

Malnutrition encompasses stunting and wasting and multi vitamin and nutrients deficiency. It significantly contributes to under five mortality as malnourished children are more prone to infections and hence frequent episodes of diarrhoea, acute respiratory infections etc. Till the age of two to three years if the child is undernourished, many effects of chronic malnutrition are irreversible. This is highly linked to the income level of households who can afford to provide good food and nutrition to the child. High levels of poverty directly connote malnutrition death cases.

Nutrition rehabilitation centres are a critical link for an ailing and malnourished child but eventual geographical difficulties and cut off zones result in accessibility to these facilities available as a ward in CHCs or sub district hospitals. The severely malnourished children data, number of severely underweight children provided health check-up and number of pre-term new-borns are potential victims of malnutrition and the data for the same is maintained by the HMIS repository at block level. The state also maintains data.

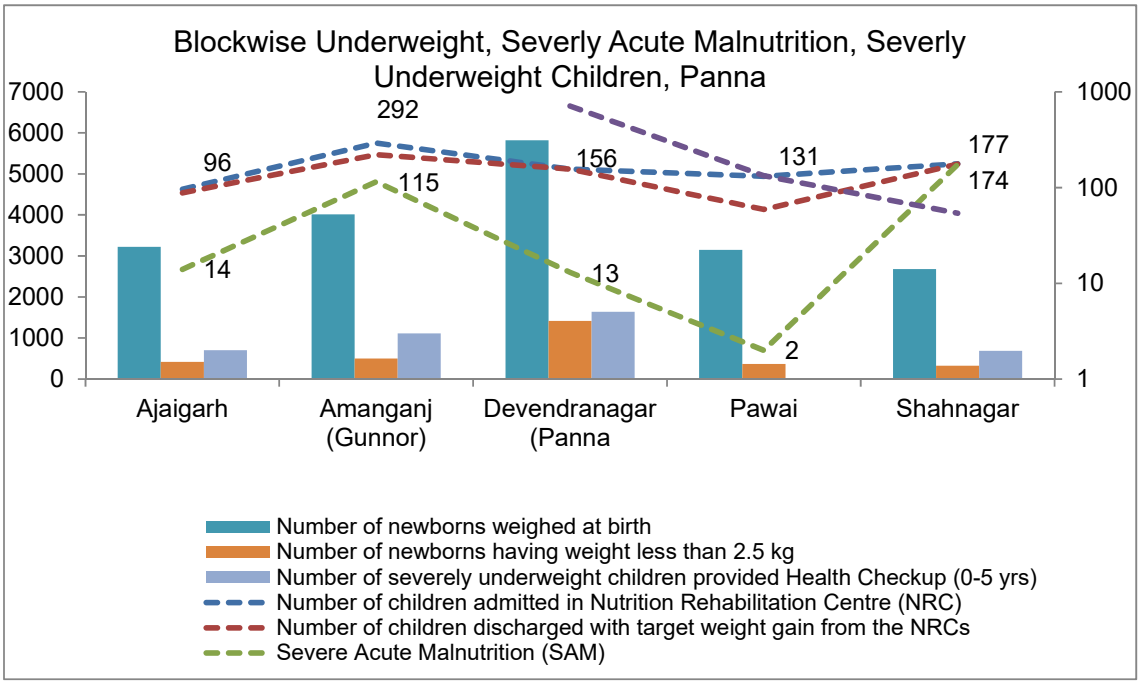
In Sagar division, over the five year period, 37,741 children were admitted in the NRCs, highest being in 2016-17 financial year numbering 9397 and lowest in 2014-15 (5690). Most of the referrals were by the Anganwadi workers and Asha workers which are the nearest to the community.

[7] http://pib.nic.in/newsite/PrintRelease.aspx?relid=186712



The data reveals that spike in children admitted in NRC occurred in 2016-17 in Panna district and most of the referrals were by the community health workers.

Table H – Nutrition Rehabilitation Centres					
Parameters	Panna				
	2018-19*	**2017-18**	**2016-17**	**2015-16**	**2015-14**
No. of Beds	50	70	70	70	70
Children Admitted	607	1211	1540	1132	1045
Children Referred by AWW	420	829	933	648	618
Children Referred by Asha	20	128	215	259	239
Children Referred by Self	6	35	96	23	73
Children Referred by Doctor(OPD)	138	174	191	162	104
Children Referred by RBSK Team	4	9	12	3	0
Children Referred by Others	19	36	93	37	11



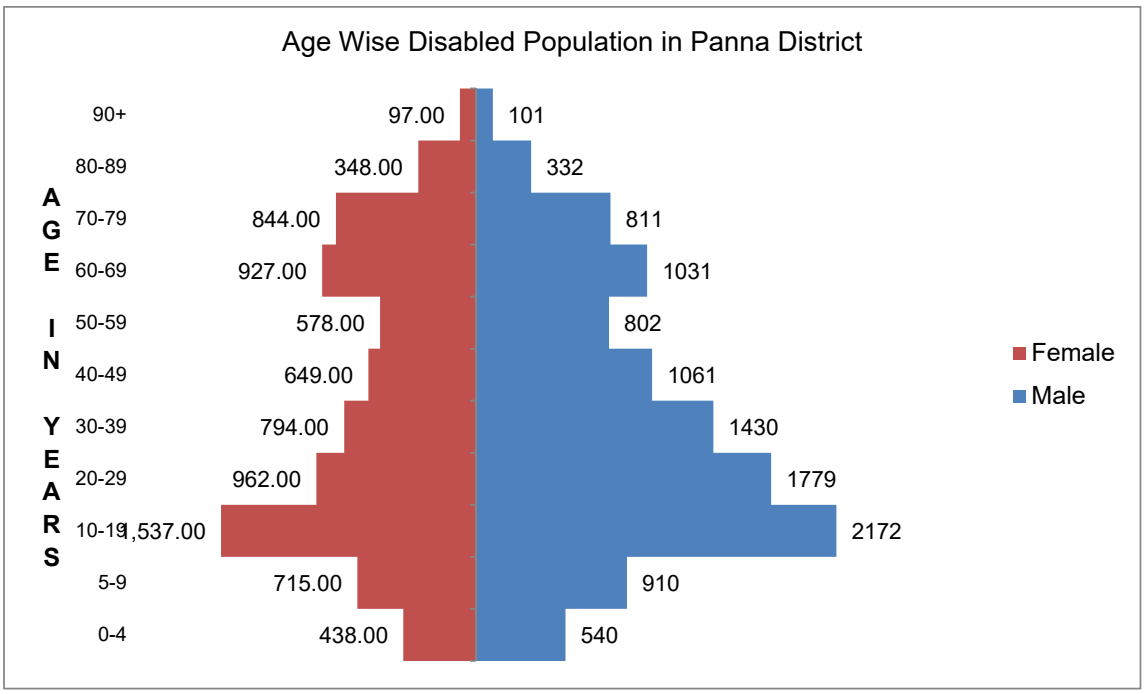
Note: Dashed lines are on the secondary vertical axis (right hand side numbers on a log scale). NRC admissions (top) and SAM data labels are shown along the dashed lines.

If we look at SAM, pre term new-borns, severely underweight children provided treatment, these form a vulnerable group of population which is at risk. Of those weighed at birth, 15% on an average were underweight. Of the 852 children admitted in the NRC, 700 were discharged with target weight gain. There is no data on post discharge monitoring of child's vital information on nutrition. The total population which is under stress due to severe malnutrition, underweight or premature birth is 8468 children. Unless a close watch is held for their psychological, physical and mental growth, number of children with one or the other functional problems will rise and probably may reflect in the drop out or out of school children statistics. Shahnagar[8] and Gunnor has the highest number of severely malnourished children

[8] The state data on number of beds in Shahnagar and Gunnor is '0'

DISABILITY

The Census of India maintains gender and age-wise disabled population data at the district level across eight categories. In Panna 2.1% of the total population is in the disabled category. In absolute terms, 18,889 persons are disabled in both these districts (Men – 10985, Female – 7904)



Proportion of disabled population to total population = 18,889[9] (2.1 %)

In Panna, similar pattern of disability is seen in movement, seeing and hearing. Among men, disability in movement is 30.07% followed by seeing (17.42%) and hearing (13.79%) whereas among women disability in movement is 24% and is relatively more in seeing (21.71%) and hearing (15.30%). Like Chattarpur, 8.64% men among the disabled and 9.91% women among the disabled have multiple disabilities.

Another information available on disability is from the education department portal which maintains disability among children at the school level and has categorised this disability in five classes viz. Mental retardness, orthopaedic, visually handicapped, hearing impaired and learning disability. In Chattarpur, the total disabled population of children is 2235 and Badamalahara block leads with 472 disabled children. This data is of 2009-10 period. Orthopaedic disability (or movement) is the major disability among children followed by visual and hearing

[9] In terms of families (considering average household size 4.5) equivalent to 4197 families

impairment (each 22%), learning disability is low at 1%. Panna also has most disabled children in orthopaedics category (43%) whereas learning disability percentage is 14% (see Table H – Disability Status 2009-10) which is a huge difference from what is observed for Chhattarpur district. In Panna Shahnagar and Gunnor block have almost 50% of the counted disabled children and disability among boys and girls is almost similar in these blocks.

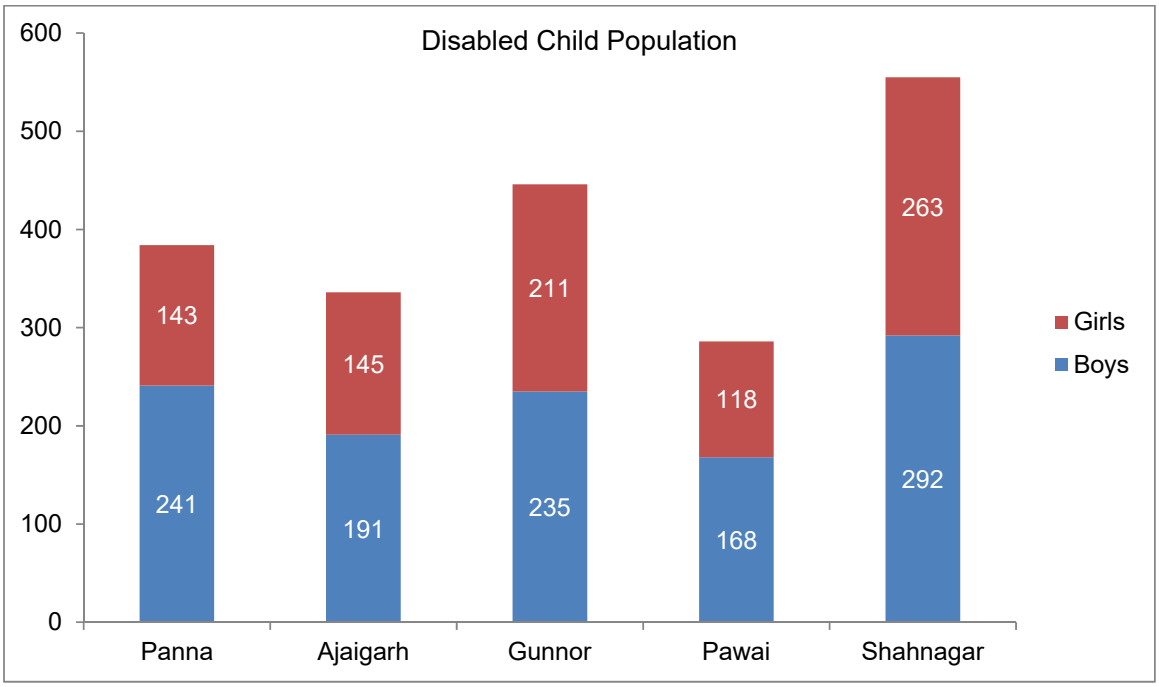
Table H - Disability Status 2009-10

	Mental retarded			Orthopaedic			Visually Handicapped			Hearing Impaired			Learning Disability		
	Boy	Girl	Total	Boy	Girl	Total	Boy	Girl	Total	Boy	Girl	Total	Boy	Girl	Total
Panna	13	16	29	107	89	196	33	22	55	81	13	94	7	3	10
Ajaigarh	27	17	44	93	66	159	17	22	39	37	25	62	17	15	32
Gunnor	31	39	70	92	47	139	35	25	60	19	31	50	58	69	127
Pawai	10	9	19	83	58	141	34	23	57	38	26	64	3	2	5
Shahnagar	15	29	44	124	104	228	42	47	89	47	41	88	64	42	106
District Total	**96**	**110**	**206**	**499**	**364**	**863**	**161**	**139**	**300**	**222**	**136**	**358**	**149**	**131**	280
Percentage			***10.26***			***43.00***			***14.95***			***17.84***			***13.95***

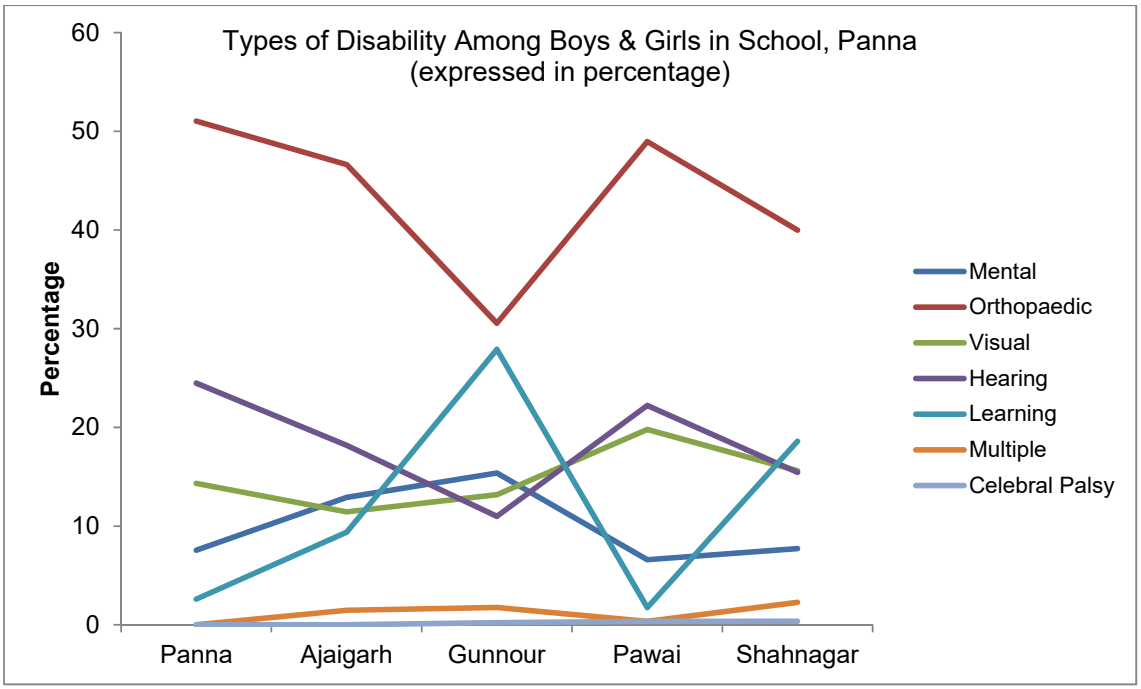
Source: Education Department Portal

Disabled population as per Education Department (Summary table of above)

Proportion of Boys and girls irrespective of type of disability is shown in the graph below. Disability among boys is more than girls as is clearly visible but the gap lessens in Gunnor and Shahnagar. Of the total disabled children captured by the system, 43% in Panna suffer from orthopaedic disability or are restricted in some of the other manner in terms of mobility. Visual and hearing impairment (combined) is 33% (22% each).



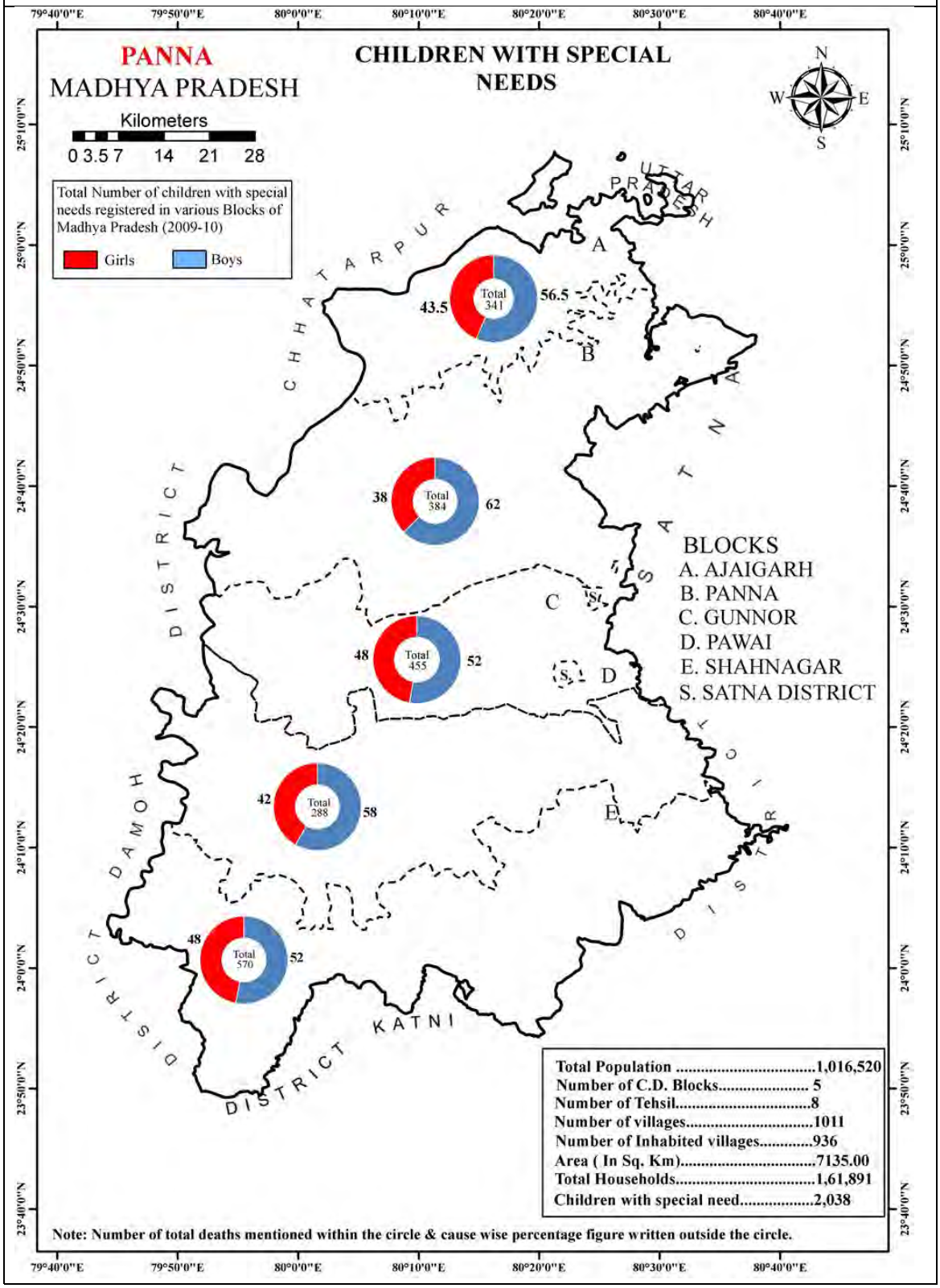
As per census 2011 data, the disabled in 5-9 years and in 10-19 years form a larger sub set of disabled population[10]. The count by the education department is in the year 2009-10 which is 2235 disabled children registered by the system for Panna is 2007 children. Most of the data captured by the education department is for students upto the age of 14 years.



At district level, a similar trend like Chhatarpur is seen; whereas the only difference is seen in learning disability which is comparatively very high in Panna (13.74) than Chhatarpur (2%) based on the survey or data represented at Smagra portal. The visual and hearing impairment is 14.72% and 17.57% respectively which is 7 and 4 percentage points more in Chhatarpur. The variation in orthopaedic disability ranges from 31-51%; visual impairment is high in Pawai and hearing impairment is high in Panna in comparison to other blocks. Learning disability is found high in Gunnour (28%) and Shahnagar (19%).

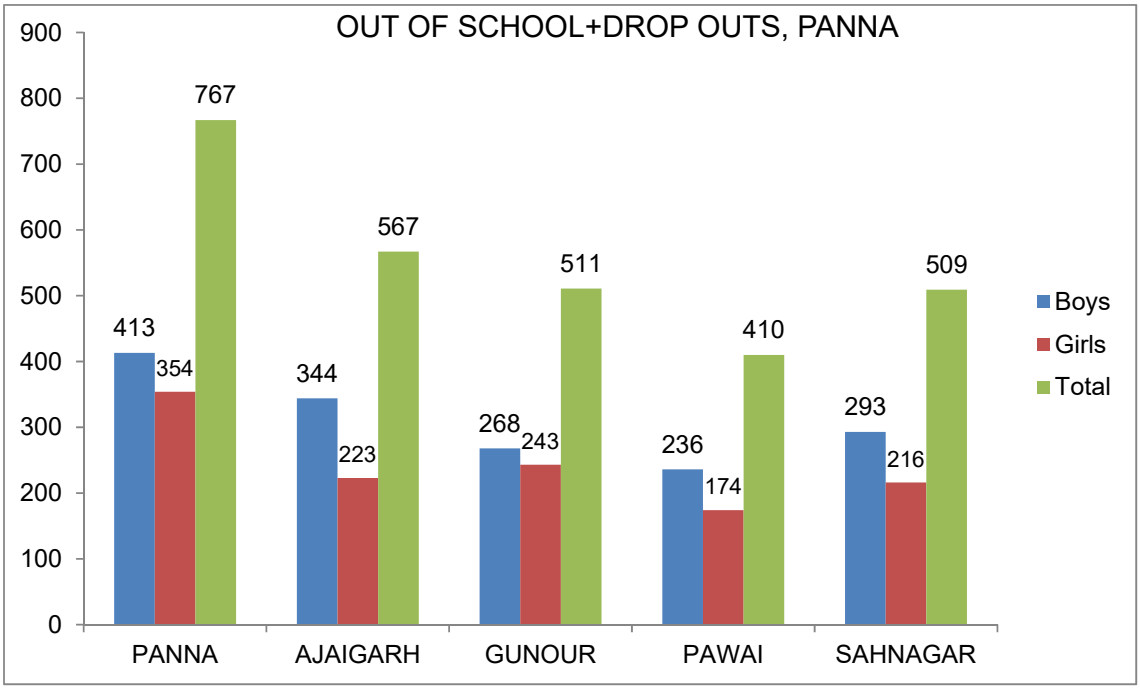
[10] The total disabled population in 5-19 years in Panna is 5,334.

MAP 18 – CHILDREN WITH SPECIAL NEEDS



Drop Outs and Out of School Children

Education portal of MP provides variety of information on education and this being a dynamic portal, the information thus changes as and when the survey or updation is done. The department collects reason wise out of school and drop out children and may provide a trend of why drop our rate is high. In the figure below, it is clear that proportionately more boys are out of school than girls – the data reflects 1.3, with the lowest of 1.10 in Gunnour & 1.54 in Ajaigarh.



In all blocks of Panna district, the main reason for being out of school is migration followed by the reason that older children take care of the younger ones and thus unable to attend the school. Description for each block is provided below;

In Panna block, migration as reason stood top (33%), older children taking care of child (16%) and 12% of the total gave reason of families financial problems.

In Ajaigarh block, migration as a reason rose to 48%, caretaking siblings at 18% and 9% gave reason that they work as agricultural labour which also hints on the issue of child labour

In Gunnour block, migration as a reason further rose to 57% followed by 11% each by caretaking siblings and grazing animals

In Pawai block, migration as a reason for out of school children was 43% followed by 12% due to families financial problems

In Shahnagar block, the highest percentage of 63% people gave the reason of families financial problems for not going to school followed by 25% people mentioning migration as another reason. Percentage of BPL[11] families is reported to be the highest in Shahnagar block (68%).

[11] As accessed from Smagra portal on January 22, 2019

HOUSING CONDITIONS AND ASSETS

This section provides an overview of housing condition and availability of assets in terms of percentage of households. Later on the same data is clubbed together to arrive at scoring and ranking to see variations among block and among different parameters.

Food, clothing and shelter are the three basic needs and each one's fulfilment is necessitated by well-being of a society, a community in the larger set up of economic structure. Housing is a fundamental requirement to build other basic needs and utilities around it and enables a sense of security and recognition in a society. Census of India provides tehsil wise village data on the quality of housing and its associated components, assets, utilities and basic services for which access is important. One of the important programmes in a run up to Housing for all by 2022 is the PMAY *(Pradhan Mantri Awas Yojna or Prime Minister Housing Scheme)* – the data already existing and available from the Census portal is presented selectively in terms of different components of housing and assets available with households. At the end, a broad ranking criteria is taken into account to rank blocks in terms of these different housing and asset components.

In the following tables, four levels of comparison is done for different housing components, utilities and basic services viz. at the state level, division level[12] (Sagar division), district level and block//tehsil where high and lows are shown. This will provide a broad overview of housing in these two districts.

Specific tehsil wise data and maps with charts are discussed later in this chapter.

Table H - Proportion of Households using the following cooking fuel

Parameter	Firewood	Crop Residue	Cowdung	LPG	Total HHs
Level					
State	78.6	7.1	9.9	3.5	11,122,365
Division	87.1	2.3	8.5	1.8	1389545
District Panna	82.2	2.6	13	1.9	
Raipura-Shahnagar	94.4,92.4	1.6,1	2.3, 4.3	1.5,2	
Gunnor-Amanganj	62.2,67.9	2.3,3.3	31.6,27.1	3.6,1.4	
District Chhatarpur	88.7	2.2	7.4	1.5	

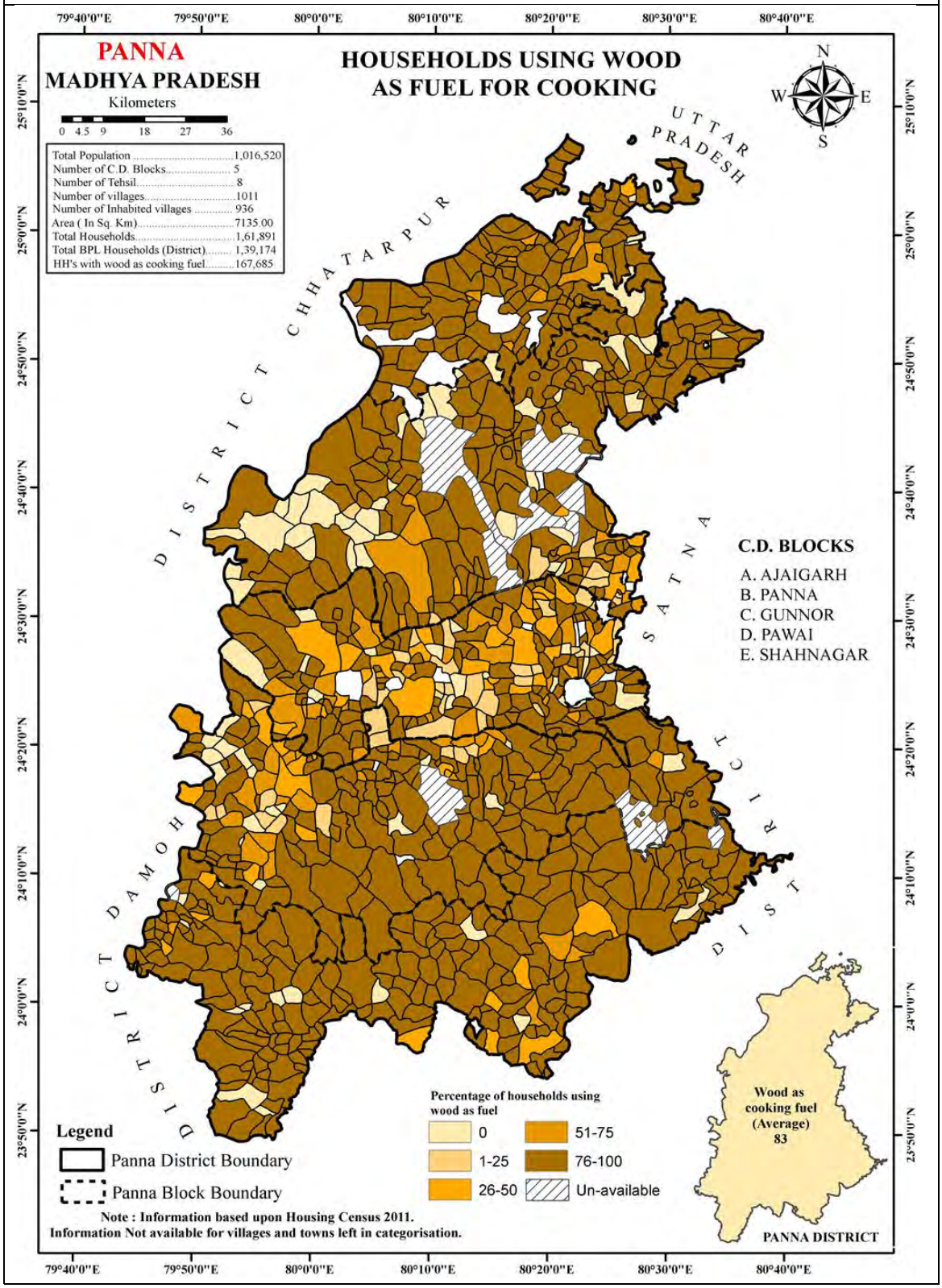
Shahdol division has high users of firewood at 95.7%

As per the ranking provided based on 2001 and 2011 census data, Panna and Chhatarpur ranked 20 and 13 for percentage share of households by use of firewood for cooking; 46 & 35 remained their rank for use of LPG; Panna leads with 16 rank in comparison to Chhatarpur with 31 rank for cooking fuel used as cowdung and crop residue.

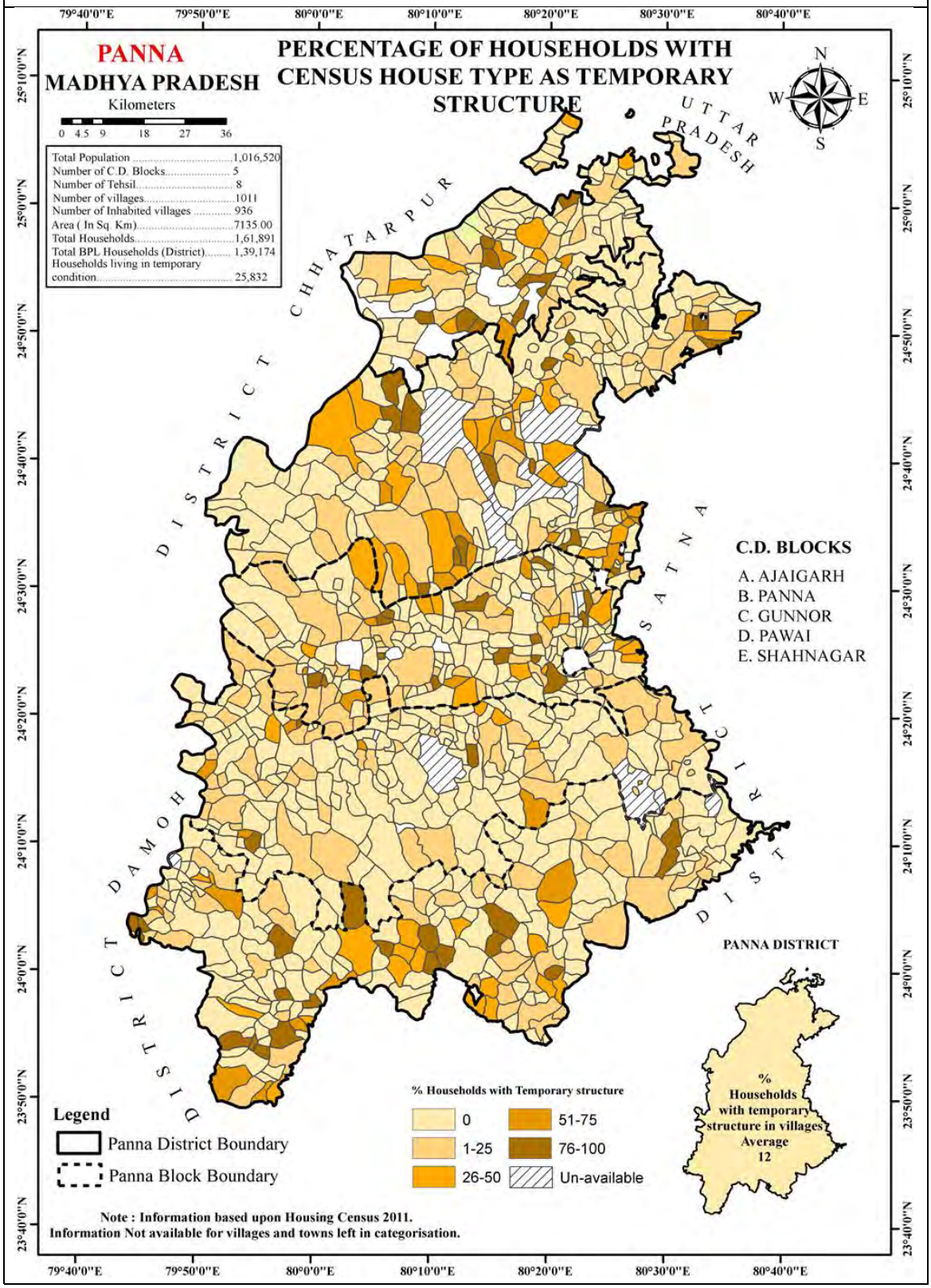
[12] Housing Atlas, Madhya Pradesh Census

In rural Madhya Pradesh, percentage of households using electricity were 58.3 and those using kerosene were 40.9 whereas the same proportion at division level is 47.7 and 51.7 respectively which suggests that lesser proportion of households are connected to electricity. At District level the proportion for Panna is at 27.2 and 72.2 respectively. Panna is ranked 49 and Chhatarpur 42 in terms of electricity used by households as main source of lighting whereas the rank is 2 and 9 for kerosene as source of lighting.

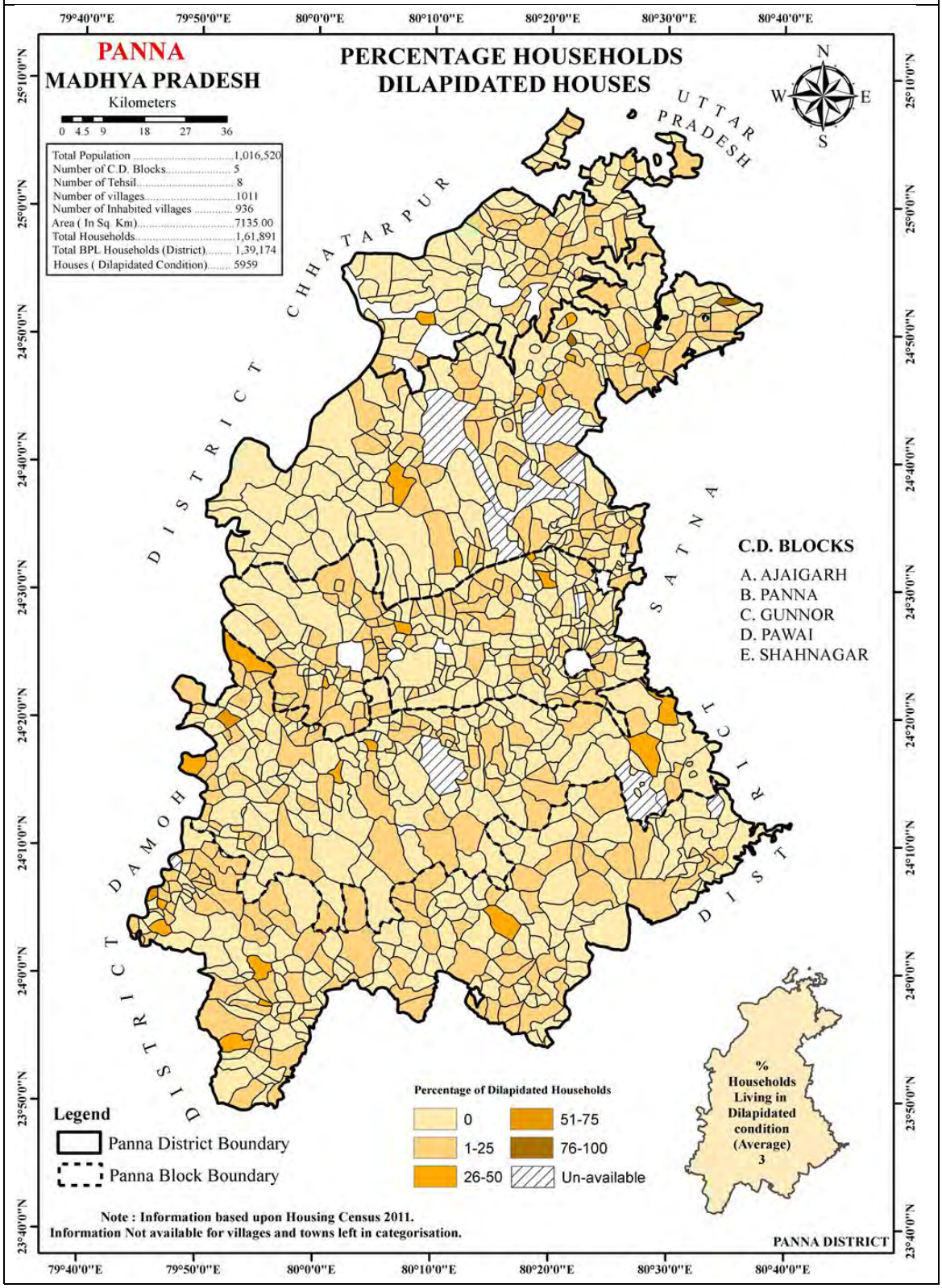
MAP 19 – HOUSEHOLDS USING WOOD AS FUEL FOR COOKING



MAP 20 – HOUSEHOLDS LIVING IN TEMPORARY STRUCTURE



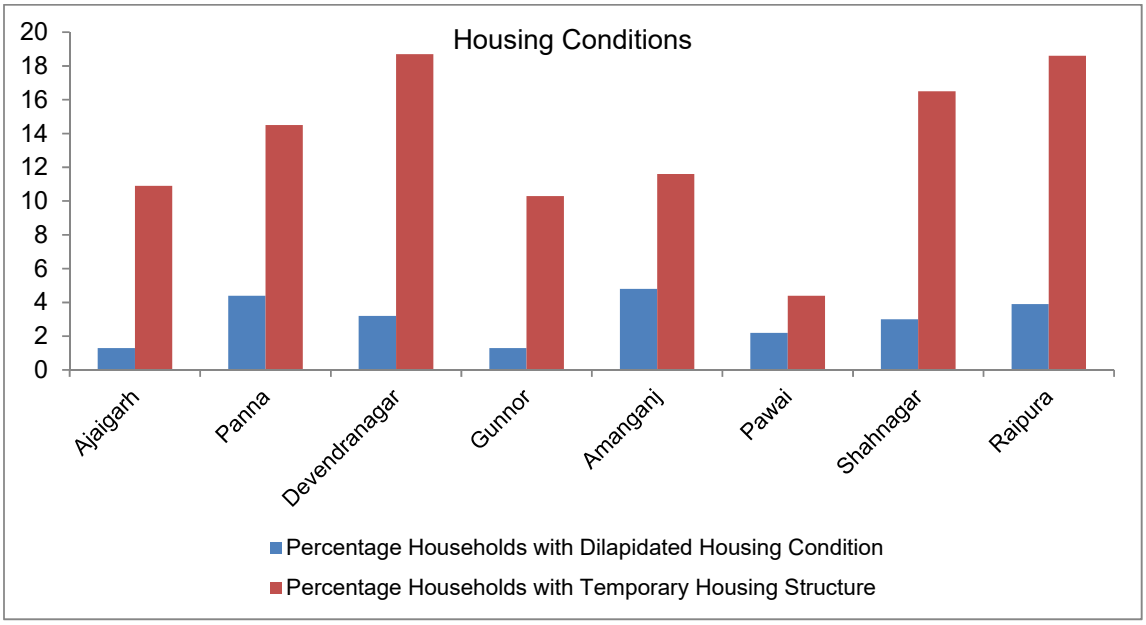
MAP 21 – HOUSEHOLDS LIVING IN HOUSES WITH DILAPIDATED CONDITION



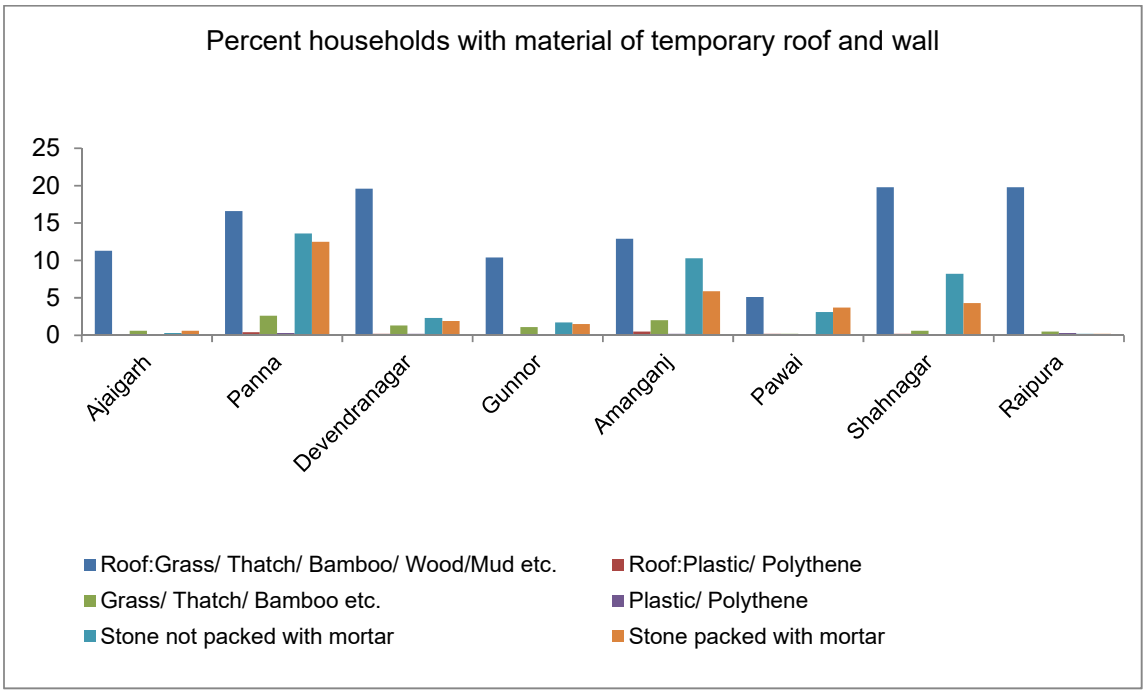
Proportion of Census Houses as Dilapidated		
Parameter	Dilapidated	Census Houses
Level		
State	4.5	11030974
Division	3.7	1381428
District Panna	2.9	
Panna Tehsil	5.4	
Gunnor	1.3	
District Chhatarpur	2.5	

Panna ranks 39 and Chhatarpur ranks 40 for percentage share of census houses in dilapidated condition

Around 13% of the households have temporary structures which also correlates well with the material of roof and wall. Panna, Devendranagar, Shahnagar and Raipura have average 17% of such households.



Proportion of census houses with predominant roof material					
Parameter	Grass/Thatch/ Bamboo/ Wood/Mud	Plastic/polythene	Tiles	Stone/slate	Census houses
Level					
State	10.7	1	58	11.5	12865680
Division	8.4	0.4	69.1	9.7	1624076
District Panna	13.8 (40)	0.2	72 (9)	7.4 (20)	
Pawai		0.3,0.2	81.6	12.6	
District Chhatarpur	8 (48)	0.2	68.5 (20)	3.6 (22)	

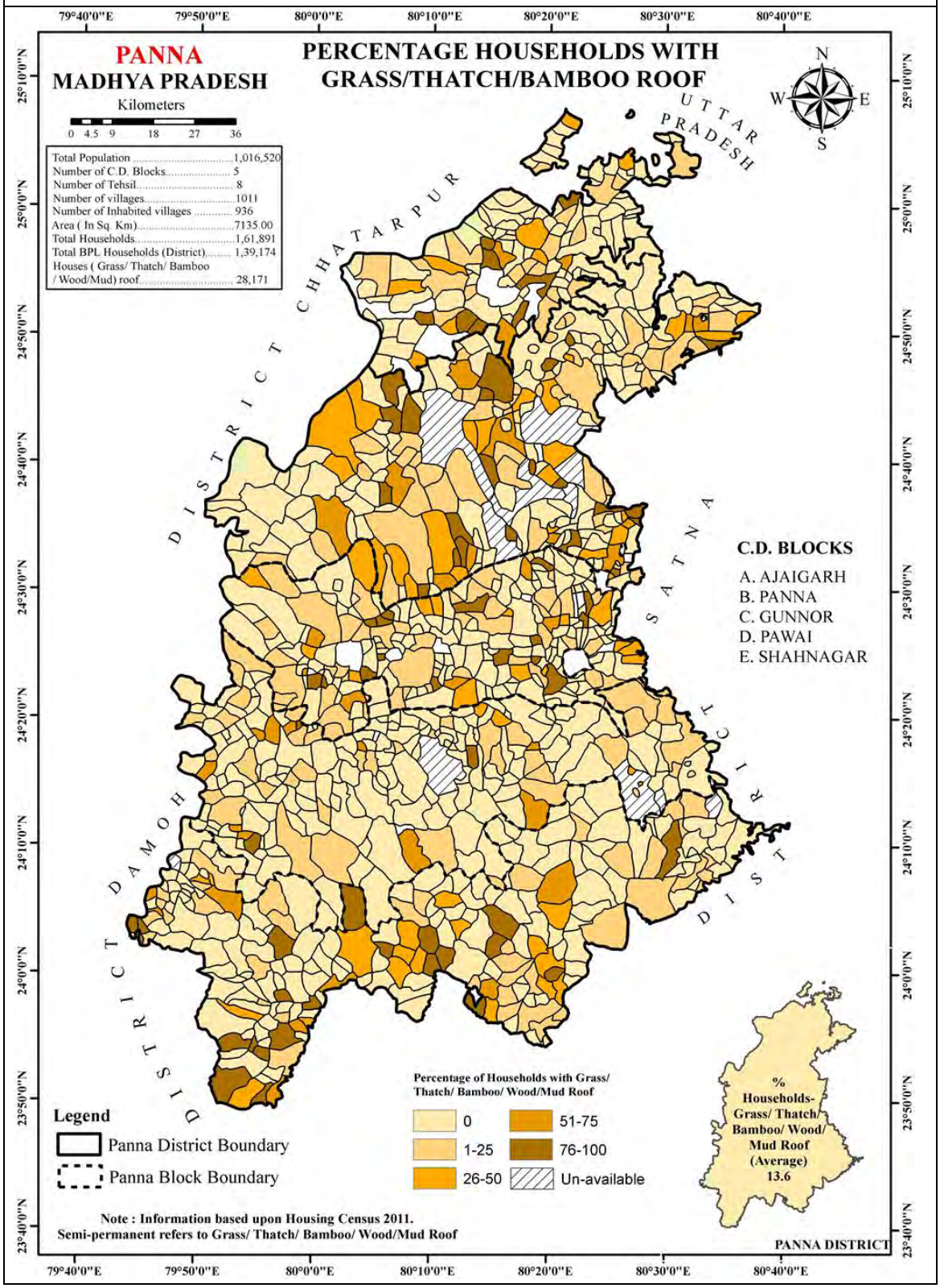


Overall, average 15% of the households have roof material constituting those available naturally and very less proportion (<0.5%) of plastic/polythene. The lowest percentage of households (with such roof material) is in Pawai and the highest is in Raipura and Devendranagar Tehsils. The contribution of plastic/polythene which is too temporary a roof material constitute <0.5 of total households.

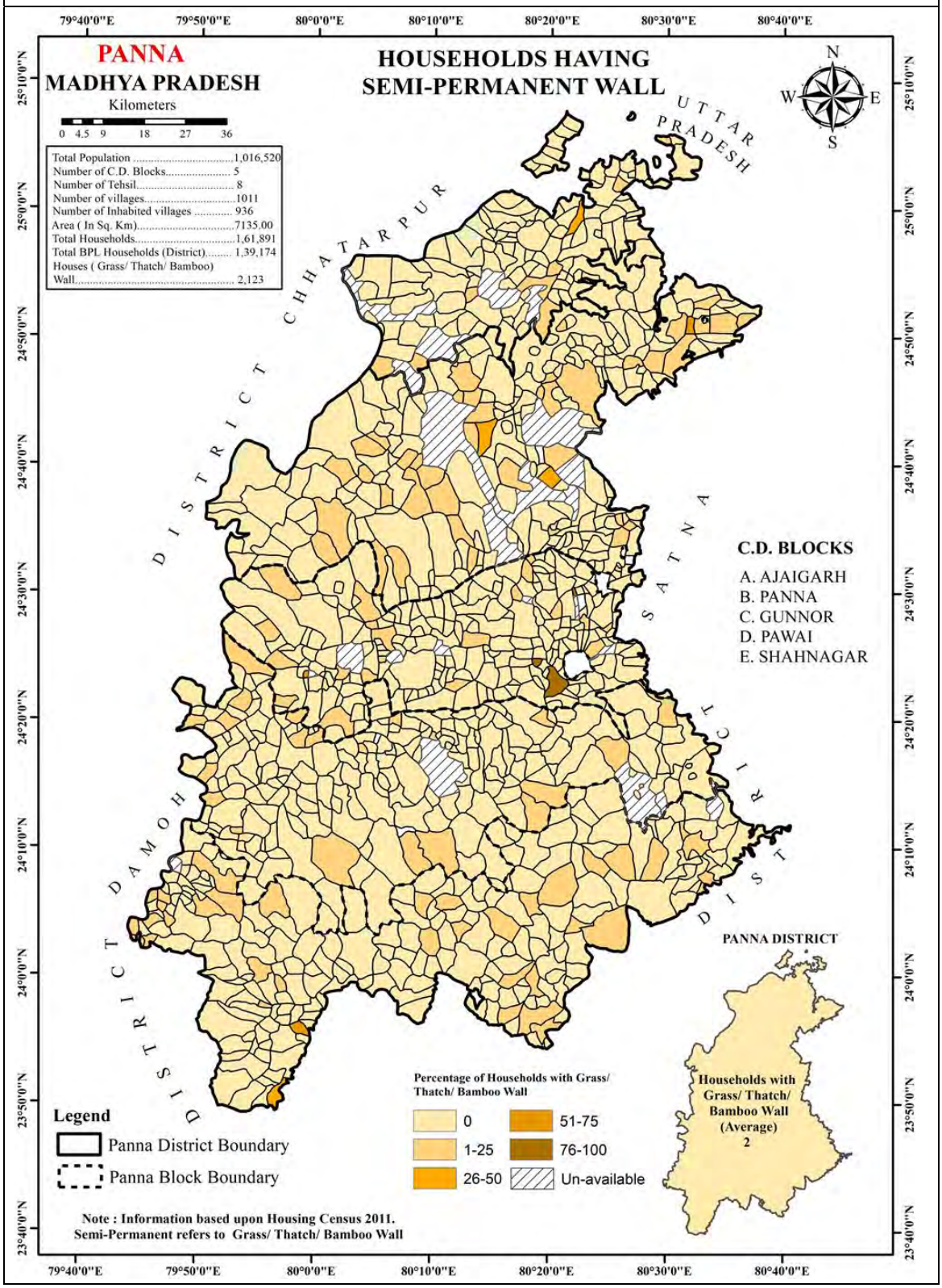
Four kinds of walls are selected which are found with low income households, these are grass/thatch; plastic/ploythene; stone with and without mortar. These four materials taken together constitute10% (average) households in Panna, the lowest being in Raipura which is 1.2%. There are variations seen across blocks. Stone wall (with or without mortar) is choice of average 4% households - more is for stone without mortar pitching. This is true as stone-gitti mining as well as availability of stone is better and is long lasting. Moreover, it is difficult for the people to venture into the Protected Areas to access forest resources

Proportion of census houses with predominant wall material					
Parameter	Grass/Thatch/ Bamboo/	Plastic/polythene	Mud/Unburnt brick	Stone	Census houses
Level					
State	4.5	0.3	52.3	14.8	12865680
Division	1.3	0.3	52.3	14.8	1624076
District Panna	1	0.2	76.8 (4)	8.6	
District Chhatarpur	0.8	0.2	59.2 (18)	7.4	

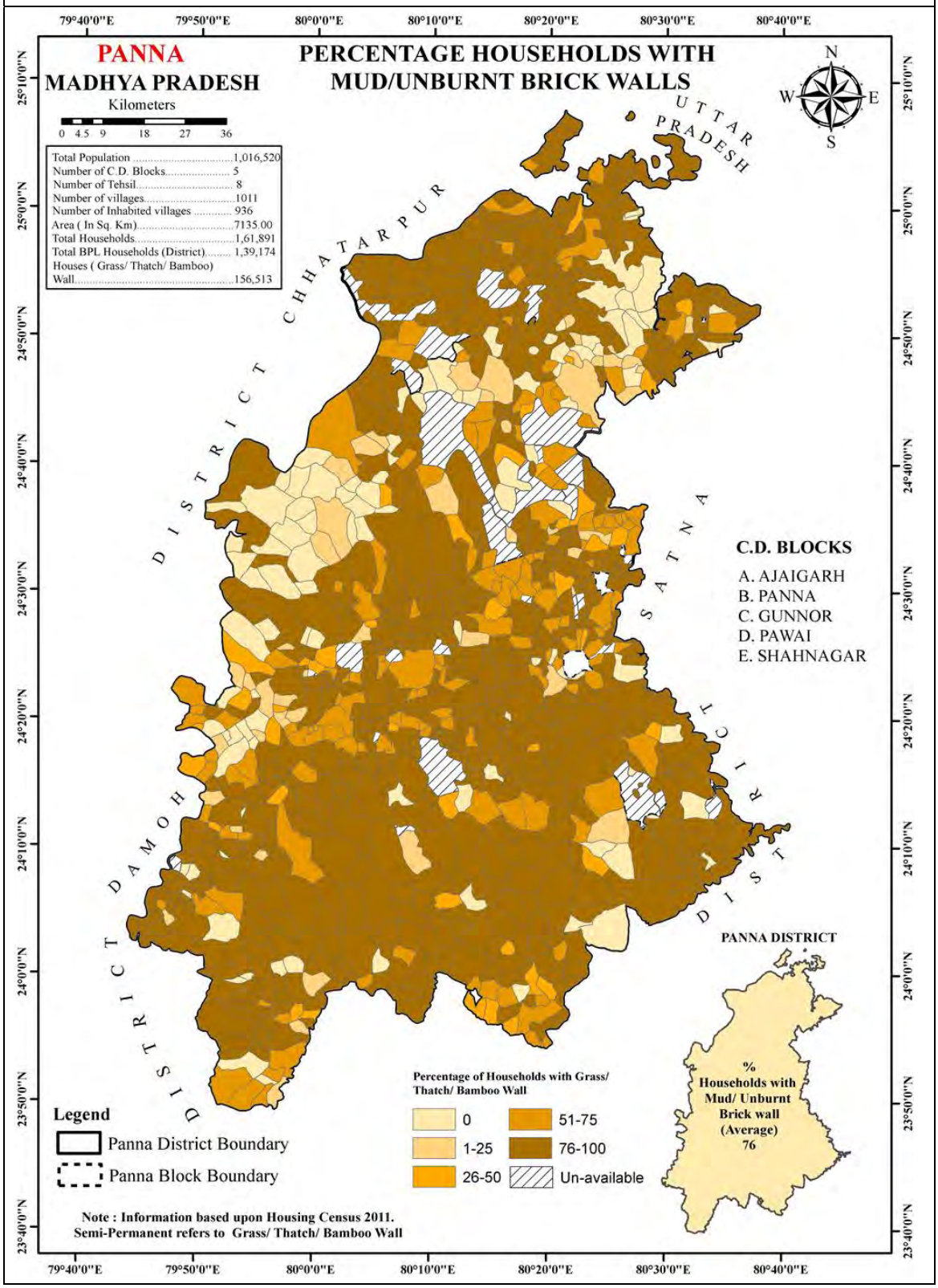
MAP 22 – HOUSEHOLDS LIVING IN HOUSES WITH GRASS/THATCH/BAMBOO ROOF

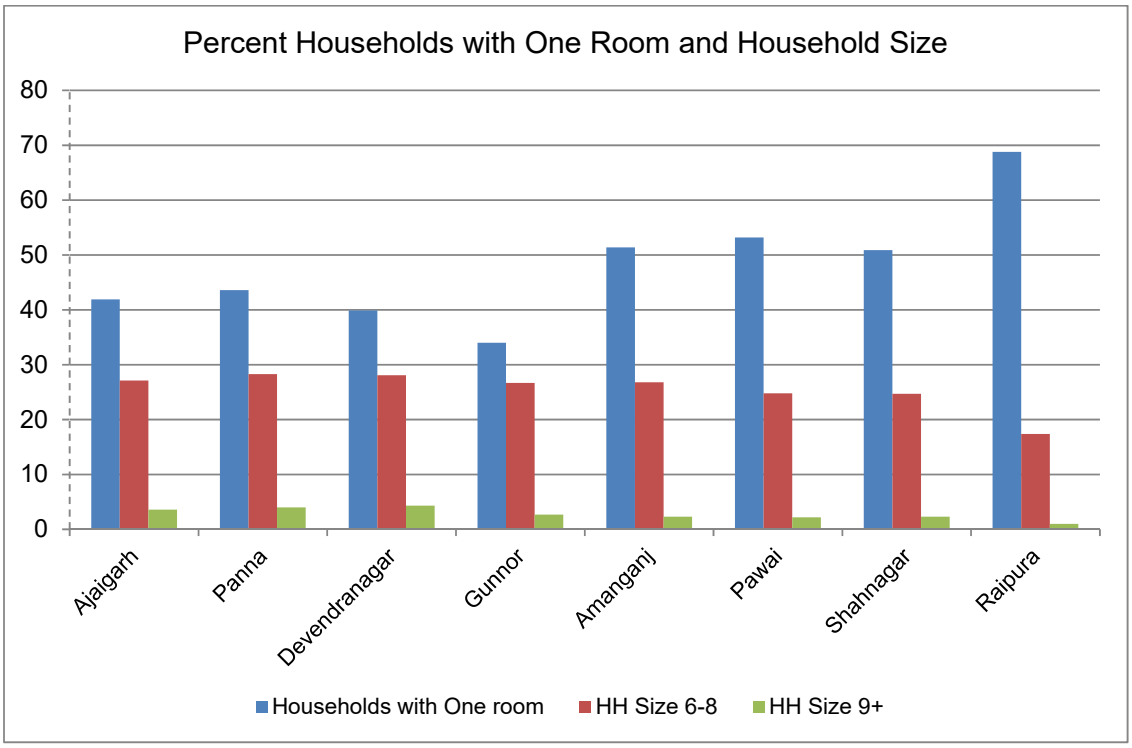


MAP 23 – PERCENTAGE OF HOUSEHOLDS LIVING IN HOUSES WITH SEMI PERMANENT WALLS



MAP 24 – PERCENTAGE OF HOUSEHOLDS LIVING IN HOUSES WITH SEMI PERMANENT WALLS





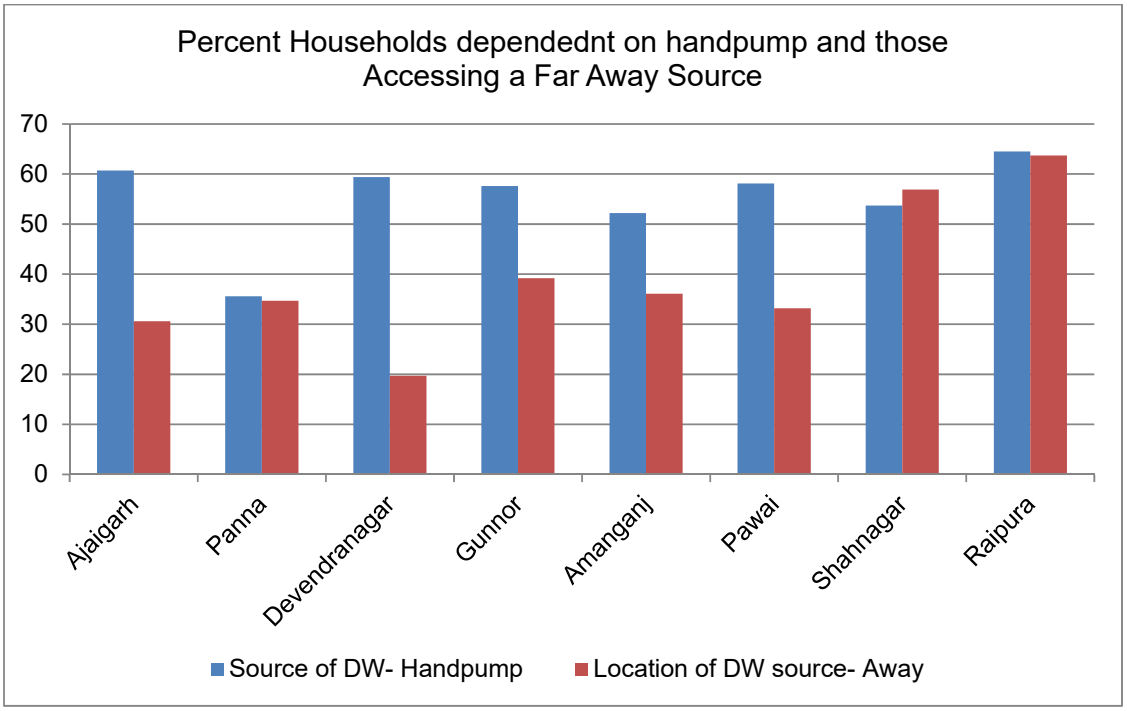
On an average 47% of households have one room. Raipura is one tehsil where 69% of households have one room whereas Gunnor is the lowest with only 34% of households with one room dwelling. This also hints upon labour colonies or row houses.

If we take an overall average at district level, the average household size is around 5 persons but there are households with more than 6 members too. Among the blocks, average 25% households are those which have 6-8 members, the lowest for Raipura at 17.4%. Those with family members >9 average 2.5% of the overall households, the highest in Devendranagar followed by Panna at 4%.

Percentage of Households by Main Source of Drinking Water				
Parameter	Tap Water	Well Water	Handpump	Households
State	9.9	25	58.3	11122365
Division	4.8	38.7	52.6	1389545
District Panna	5.3 (43)	31.8 (11)	57.6 (31)	
District Chhatarpur	3.1 (45)	43.6 (3)	51.6 (42)	

Percentage of Households by Availability (access to) of Drinking Water			
Parameter	Near premises	Away	Households
State	50.9	36	11122365
Division	50.4	42.2	1389545
District Panna	52.8 (6)	39.9 (12)	
District Chhatarpur	53.2 (12)	40.5 (9)	

Tap water is considered to be safe than other available sources, in almost all the blocks handpump is the major drinking source (55%), it is less in Panna which has a urbanised component of population (36%). Raipura and Ajaigarh lead with >60% dependence of handpumps. Majority of the households (1/3rd) in all blocks barring Raipur and Shahnagar reported water source at a distance (away).



Percentage of Households by Number of Members			
Parameter	6-8 members	9+ members	Households
State	27.8	4.7	11122365
Division	25.9	3.3	1389545
District Panna	25.4	2.4	
District Chhatarpur	31.9	5.9	

Panna ranks 40 and Chhatarpur 12 for households having family members more than 5

As majority of the households have one room, it is also reflected in not having a separate kitchen inside the house. Average 61% houeholds did not have a separate kitchen in the house.

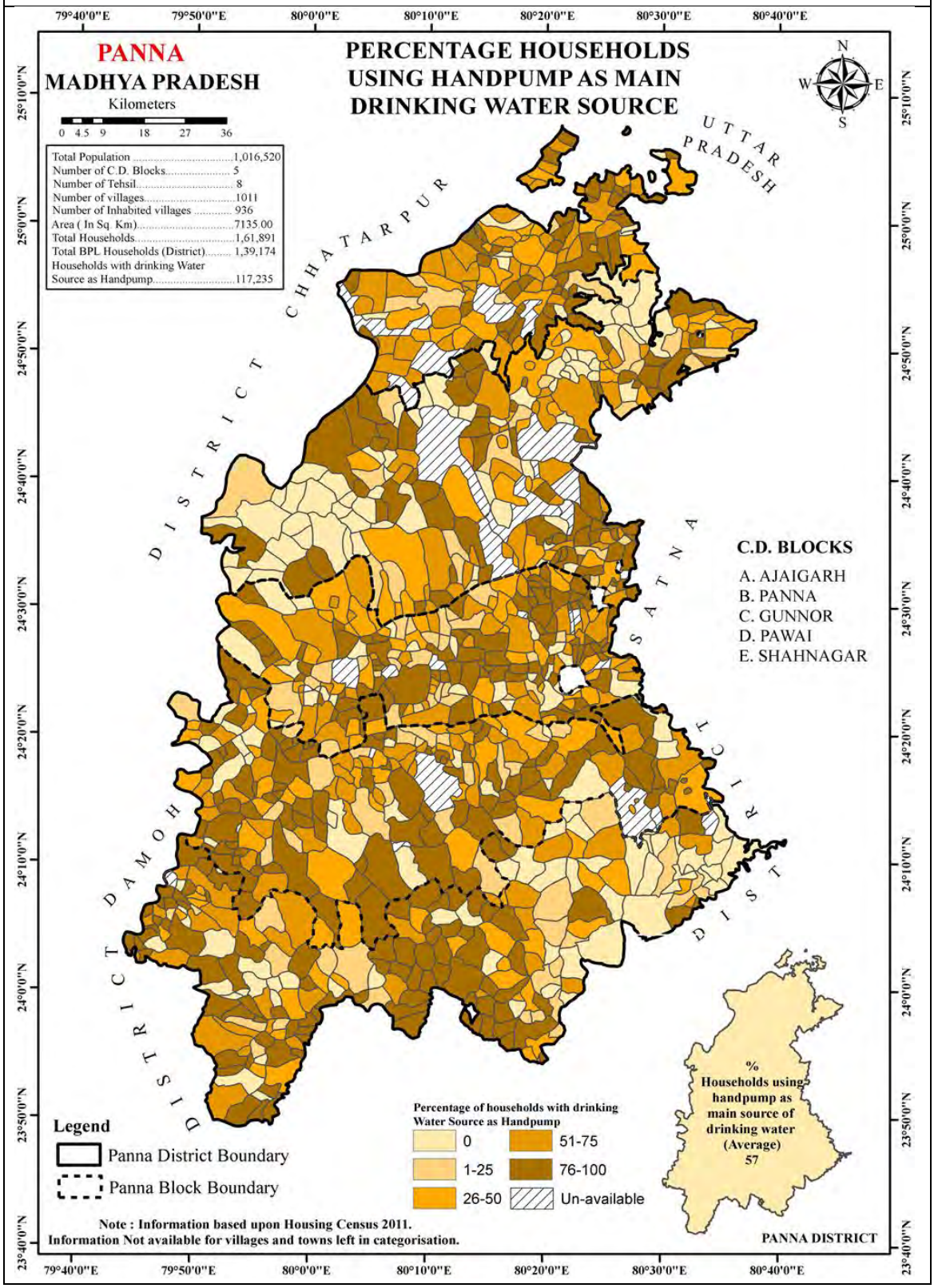
Percentage of Households by number of dwelling rooms			
Parameter	One room	No exclusive room	Households
State	44.5	2.8	11122365
Division	47	2.1	1389545
District Panna	49.7	2.1 (20)	
District Chhatarpur	38.9	1 (42)	

Panna ranks 21 and Chhatarpur 40 for households with 1-2 rooms

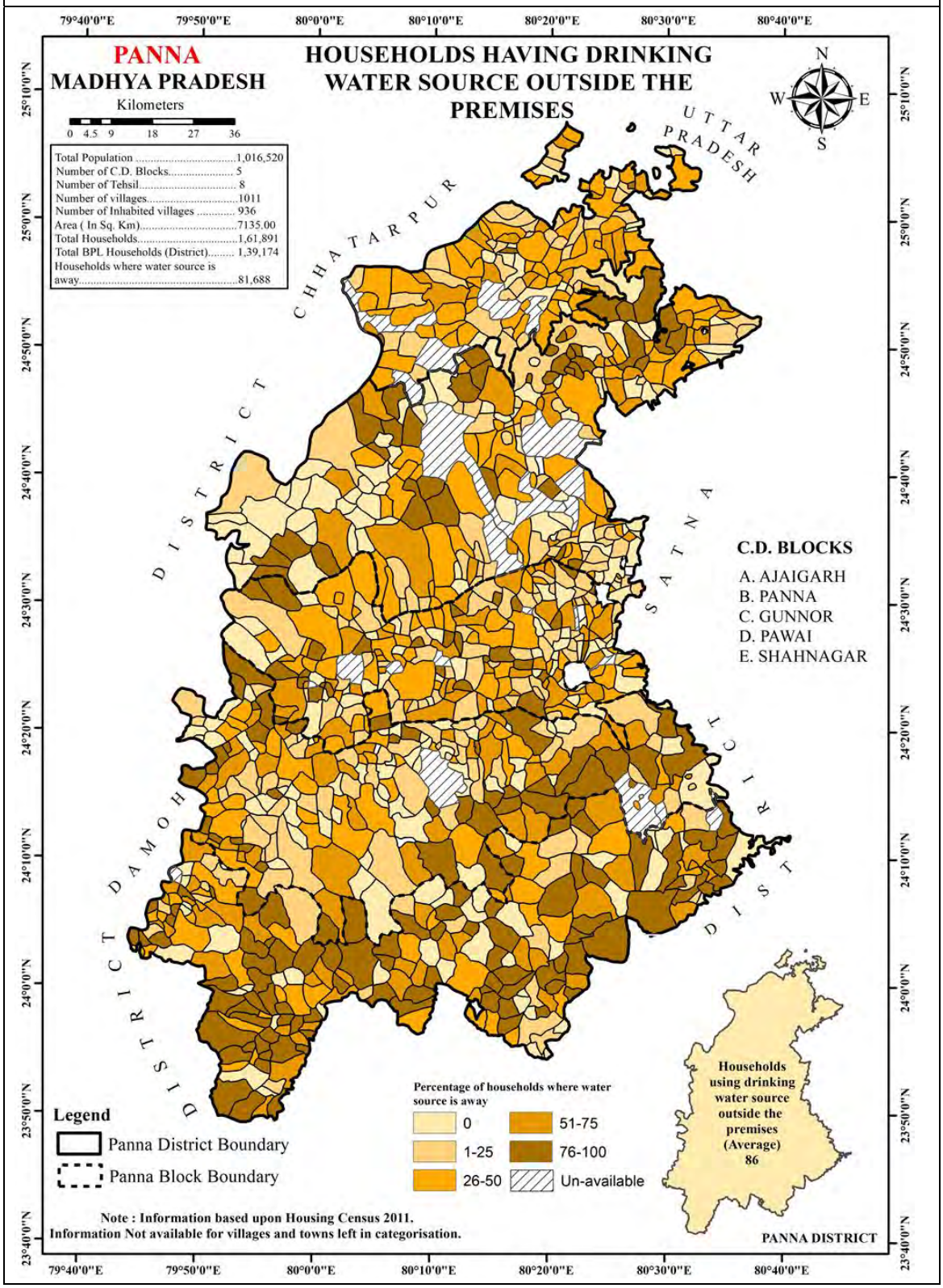
Percentage of Households by modes of transportation (asset)			
Parameter	Bicycle	Scooter/Moped etc.	Households
State	36.4	12	11122365
Division	40.6	7.9	1389545
District Panna	39.3 (20)	5.9 (47)	
District Chhatarpur	50.4 (5)	8.7 (36)	

Average 65% of households use kerosene as the main source of lighting, which also indicates low levels of electrification or non-accessibility of a household to electricity connection due to issues of affordability.

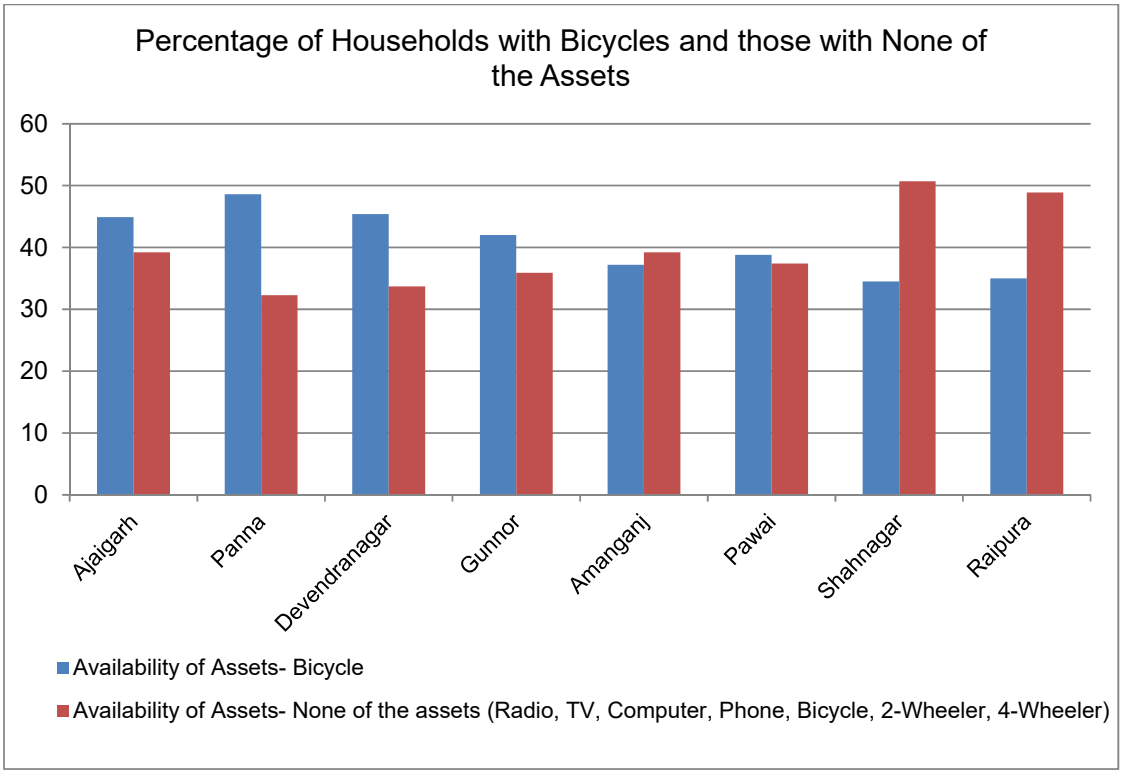
MAP 25 – PERCENTAGE OF HOUSEHOLDS USING HANDPUMPS



MAP 26 – PERCENTAGE OF HOUSEHOLDS ACCESSING DRINKING WATER SOURCE AWAY FROM PREMISES



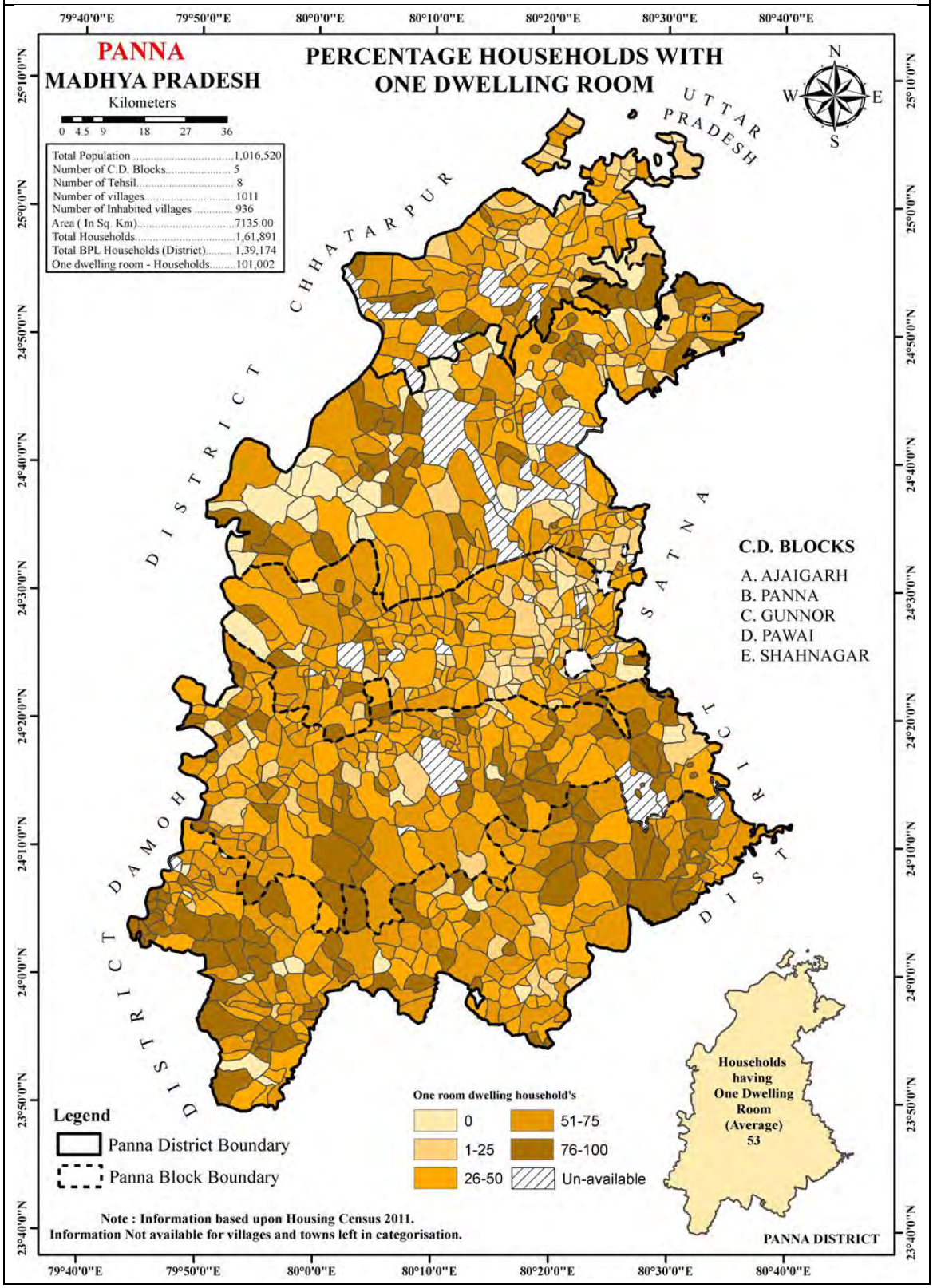
Percentage of Households by Entertainment and Communication Assets				
Parameter	Mobile Only	Television	Radio/Transistor	Households
State	33.5	8.6	13	11122365
Division	34.2	14.8	17	1389545
District Panna	30.5 (46)[#]	8.4 (47)	18.6 (16)	
District Chhatarpur	41.2 (36)	13.5 (38)	18 (8)	



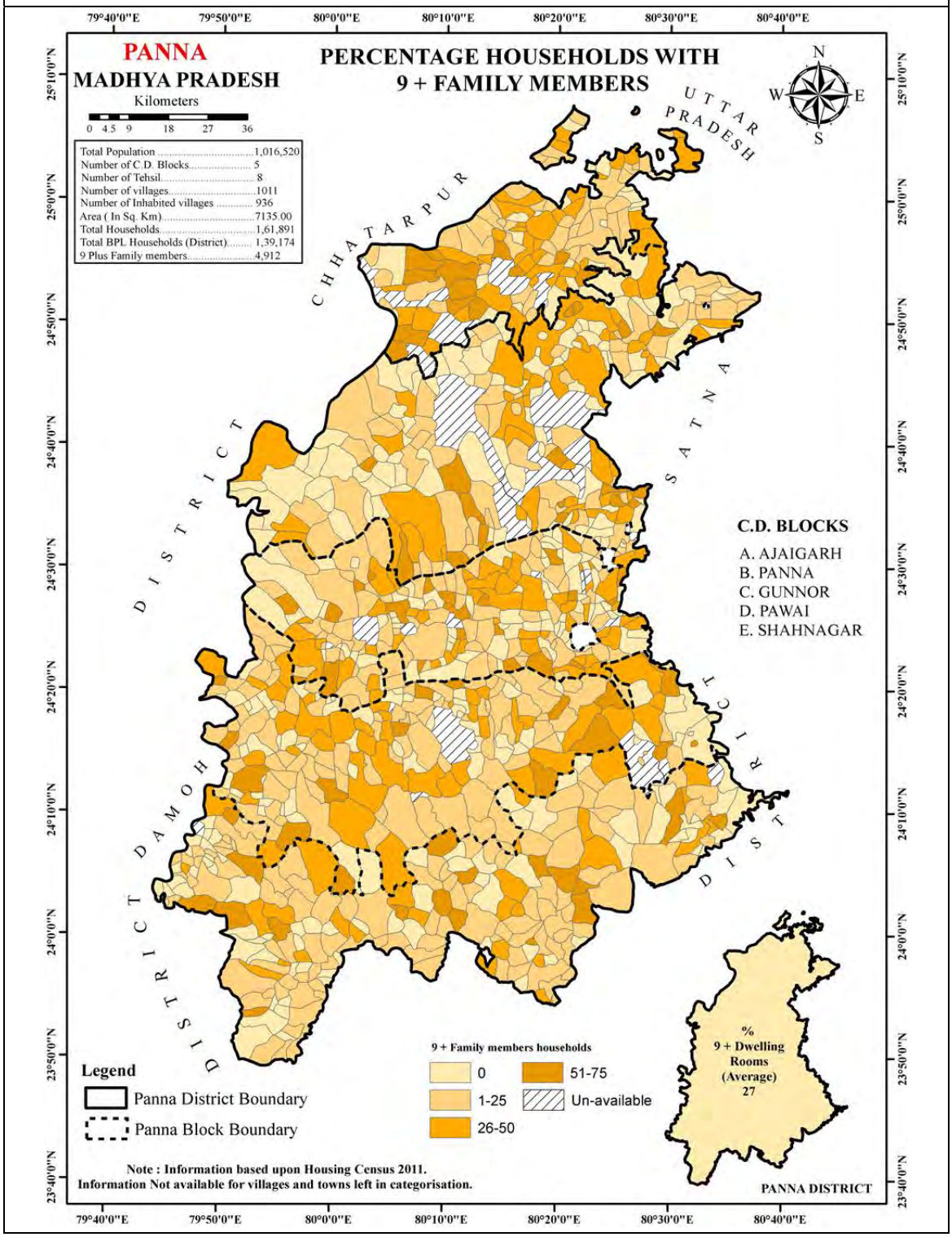
Average number of households owning bicycles in Panna is 41%, Shahnagar and Raipura tehsils are the one's with highest proportion of households with none of the assets (as listed in the chart above). Unlike Chhattarpur[13], Panna has more proportion of households (average 40%) who do not possess assets listed in the chart above.

[13] The average figure is 30%, a difference of 10%

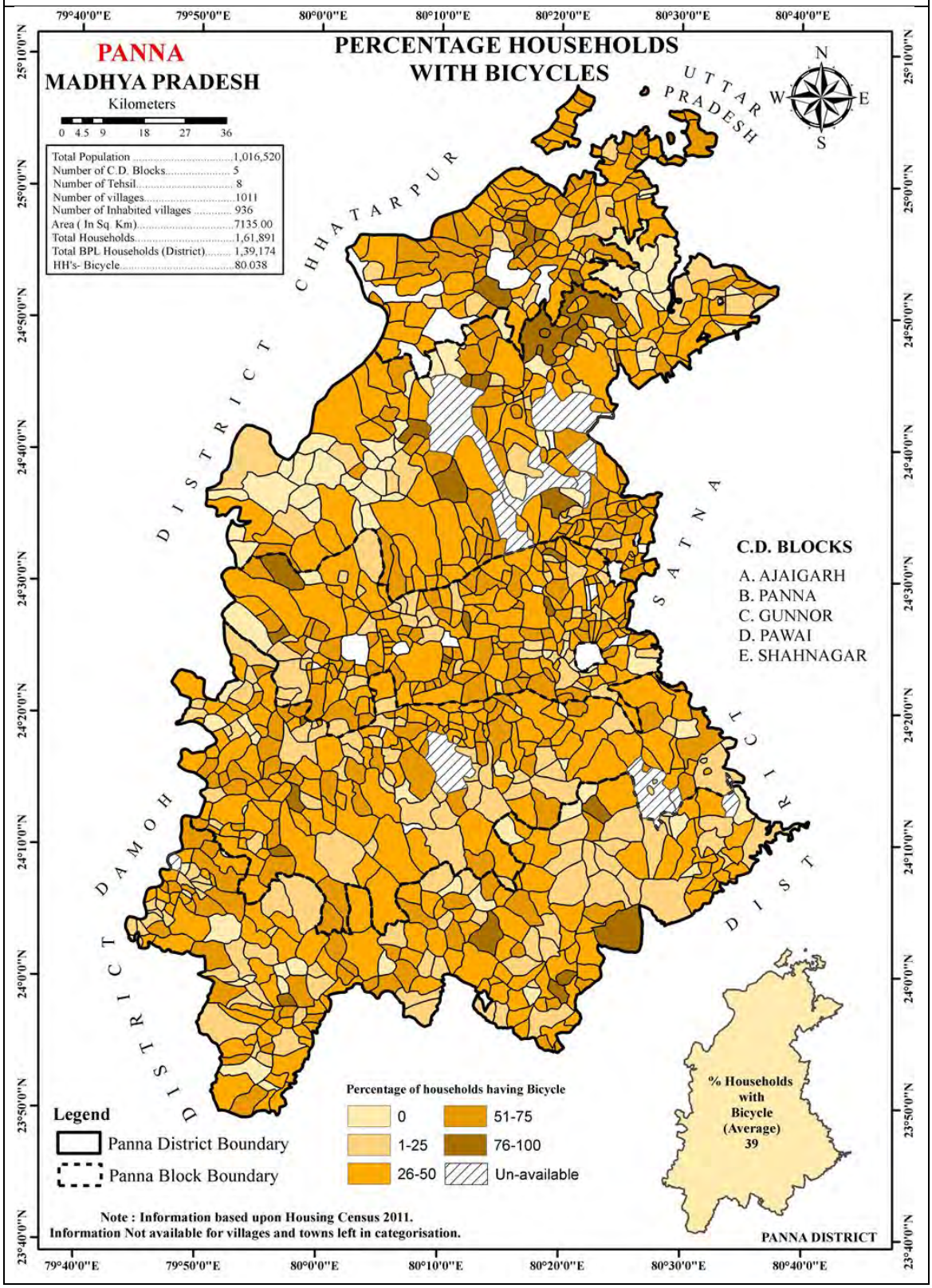
MAP 27 – PERCENTAGE HOUSEHOLDS WITH ONE DWELLING ROOM



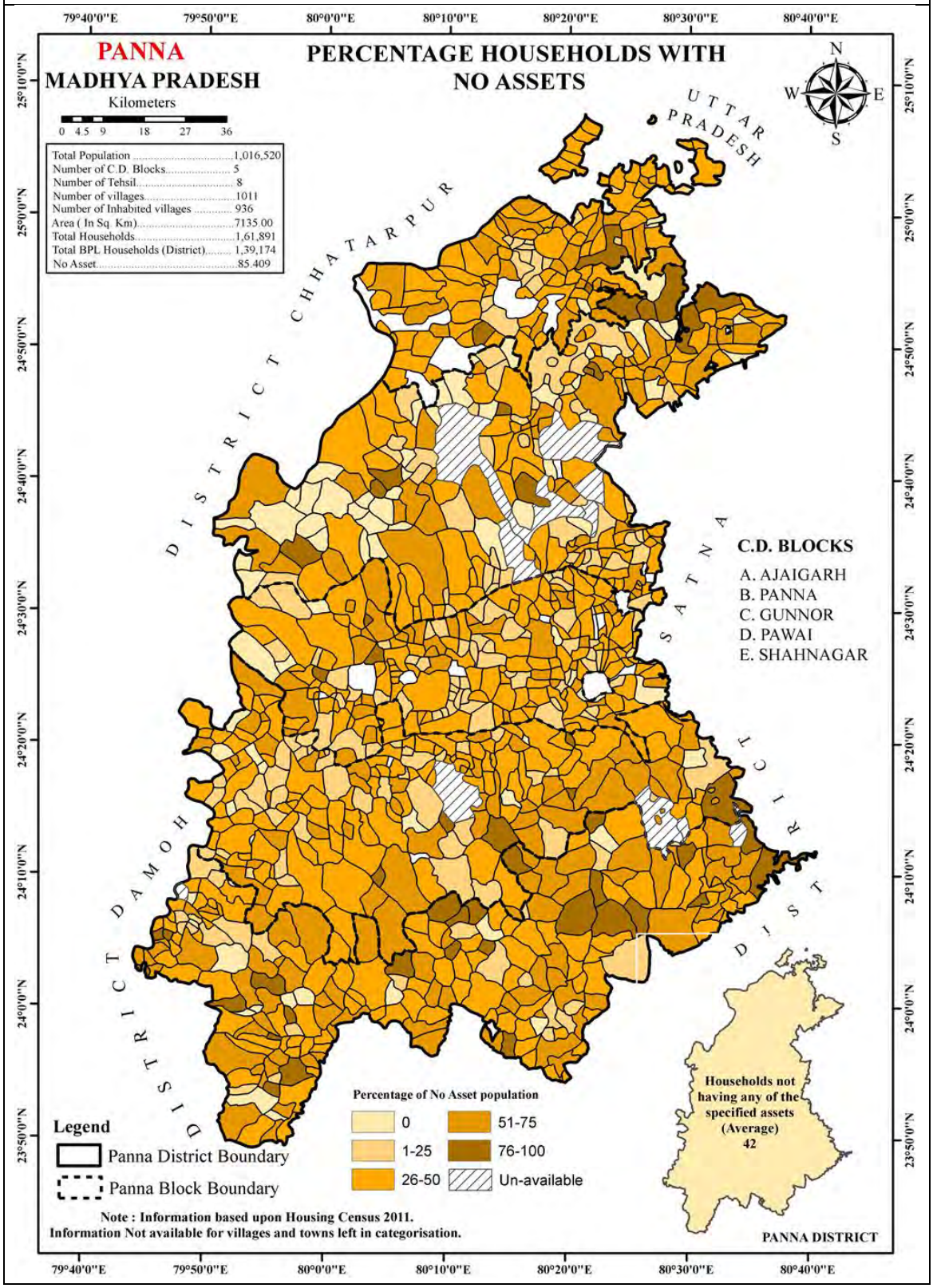
MAP 28 – PERCENTAGE OF HOUSEHOLDS WITH MORE THAN NINE MEMBERS IN FAMILY



MAP 29 – PERCENTAGE OF HOUSEHOLDS WITH BICYCLE



MAP 30 – PERCENTAGE OF HOUSEHOLDS WITH NO ASSET



Census of India's Houselisting and Housing Census Data provides 'percentage of households to total households with amenities and assets' containing diverse information which is thus helpful to see villages across parameters. The same was used to provide score and arrive at ranking among blocks.

This ranking methodology is crude yet simple to get a first-hand idea of the scale of issues across different variables selected from the Census's Housing data. The type of materials used in the housing infrastructure highlights the local availability as well as affordability of the respective households, e:g thatch or grass roof may indicate access to these resources from the common land or the forest and on the same hand it hints on the affordability of the households who are without much cash income. Similarly, number of rooms reflect upon the occupancy and probably a large household which if turns into a nuclear family may require additional sources of income to build the infrastructure and henceforth.

Our PDS system also reflects upon the availability of kerosene which is largely used as a lighting source (lamp) and firewood majorly used as a cooking fuel across the districts. These variables among the many were chosen to get a reflection on the overall modest understanding of the region. For example, those households having temporary structures and temporary building materials may provide a socio-economic situational analysis in absence of any other data – there will be deviations but to get a broad idea, this basic approach if followed.

Out of 10 variables for material of wall, we have chosen only those which are most likely to be used by low income or poor households. Similarly, out of 9 roof material variables, only two are chosen – thatch/grass/mud and plastic/polythene which again reflect on the affordability. *Basically finding out 'better among the worst'*. So the average of the district is taken as a cut off and percentage of households reflecting a particular variable is indexed with this average, which may be higher than the average value, equivalent or lower.

The variable entries are sorted in ascending order, the average is taken as the base from which variation (percent) of each tehsil is calculated, if the value of variable is less than the average and it has a variation 25-50 it is given Score 1 (better); if the variation from the average is >50 but <75, its given Score 2 and if variation is from >75 but < or = 100 i.e. above average it is given Score 3 and if the variation crosses 100, its given a score 4. This marks the basic ranking criteria. So the overall rankings of each variable across the block is added and again sorted in the ascending order, the block getting a low score reflects it is better off than the other blocks and the highest score block indicates it is the worst, however there may be very less variation in certain blocks so they can be treated more or less as similar status.

In case of bicycle (+ve variable), a reverse ranking criteria is used, i.e. those blocks where high percentage of households have bicycles have been kept at a better

ranking (rank 1) rather than using the usual (above) criteria of >100% deviation as getting rank 3. Those households possessing bicycle as a commuting mode is the bare minimum what one can afford due to remoteness and no public transport for short distances, even a poor household will make an effort to have one bicycle which has multi utility of its own. Those having absolutely no assets will be low ranked.

Ranking of Districts as per data reflected in Census's Housing Data on assets and amenities

	Components from Housing Census													
Tehsil	Dilapidated (3.01)	Roof (14.66)	Wall (10.07)	One Room (47.96)	HH Size (28.28)	Handpump (55.22)	HP away (39.26)	Bicycle (40.8)	None assets (39.66)	temp (13.19)	Kerosene (65.81)	Cooking Fuel (79.48)	Total	Rank
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
Gunnor	1	2	1	2	4	4	3	4	3	3	3	3	33	1
Pawai	2	1	2	4	3	4	3	3	3	1	4	4	34	2
Ajaigarh	1	3	1	3	4	4	3	4	3	3	4	4	37	3
Devendranagar	4	4	2	3	4	4	1	4	3	4	3	3	39	4
Panna	4	4	4	3	4	2	3	4	3	4	3	3	41	5
Amanganj	4	3	4	4	4	3	3	3	3	3	4	3	41	5
Raipura	4	4	1	4	2	4	4	3	4	4	4	4	42	6
Shahnagar	3	4	4	4	3	3	4	3	4	4	4	4	44	7

Note: 1. Numericals in Column 1 to 12 are respective scores, Column 13 presents the total score of the block. 2. Figures in parenthesis represent district averages of a particular component

The difference between the high and low rank tehsil is of 10 points (score). Panna & Amanganj share the same rank (5).Shahnagar is at the bottom.

Variation from the District average among specific components is as below;

- More proportion of households with Dilapidated conditions in Amanganj and Panna Tehsil in comparison to other tehsils.
- Similarly more proportion of households with wall type as (grass/thatch/plastic) in Panna and Amanganj (variation 288% & 183% respectively from the district average)
- High proportion of households with one room in Raipura (variation 143% from the district average)
- Proportion of households with large household size (more than 9 members) is the least in Raipura, rest all the tehsils have more than the average for district.
- Handpump if the prevalent source of drinking water source across all tehsils. Raipura and Shahnagar tehsils show large variations from the district average for source of water away from home

- Raipura and Shahnagar has the high proportion of households with none of assets (telephone/mobile, 2-wheeler/4-wheeler, television/radio/computer etc.) (variation 123 & 128% respectively from district average)
- Gaurihar and Chandla has more proportion of households with Kerosene usage (variation 150% from the district average)
- Firewood as a cooking fuel is uniformly high in all tehsils, the district average is 82.89% of households using firewood.
- Devendranagar, Raipura and Shahnagar tehsils show more proportion of households in terms of temporary structures (variation of 159% percent from district average)

The recent poverty data (in terms of BPL households) at the state level is reflected in the Government portal (Smagra) at the village level and the overall updated households as of 2018. BPL data is further categorised into different social groups like the Scheduled Tribes (ST), Scheduled Castes (SC), Other Backward Classes (OBC) and General. Examples of above poverty line households registered as below poverty line households is a common issue in most of the states which is a result of systemic failures and social challenges. But these also affect the entitlements to the deserving households and thereby diversion of entitlements to proxy or ineligible households.

In the past

Poverty[14] is generally observed to be concentrated among certain social groups and sectors. In MP, the incidence of poverty is highest among scheduled tribes (STs), followed by scheduled castes (SCs), other backward classes (OBC) and the rest, in that order. The burden of disadvantage is shared disproportionately by certain social groups and a dent in poverty requires attacking poverty amongst SCs, STs and other vulnerable groups. Similarly, rural poverty in most cases is higher than urban poverty (35.74% vis-à-vis 21% in 2011-12). As is well-known a large part of the urban poverty is an outcome of rural poverty. Development strategies with a rural focus thus become crucial for poverty reduction.

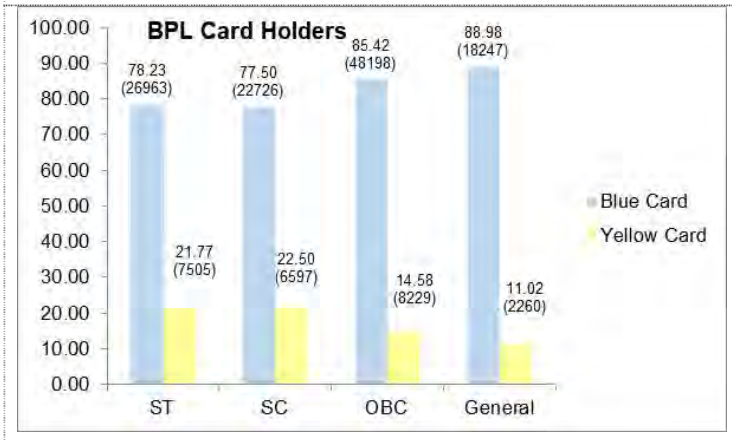
Poverty data alone may not tell the complete story and to see a trend a combination of different themes are used together to know about a trend at the block level. Four sets of maps are being used here, BPL households is the base layer in all these four maps. Over this base layer, the following themes are being shown in terms of percentage or absolute numbers. The other data[15] i.e. households with one room, households with none of the assets registered by the Census data, percentage of marginal workers to total workers correspond to 2011 Census.

a) Percentage of households with one room dwelling over the BPL base layer
b) Percentage of households with family size more than 9 members over BPL over base layer
c) Percentage of households with 'none of the assets' over the BPL base layer
d) Proportion of marginal workers to total workers over the BPL base layer

Here BPL data is taken as a central theme and rest of the data is shown over it. The maps in the following sections are shown for each block. Thus four maps for each block are shown.

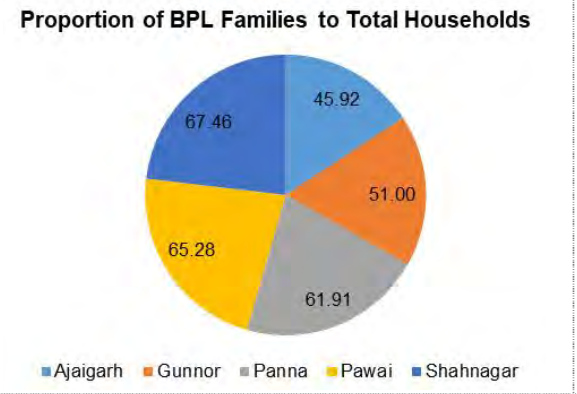
[14] Madhya Pradesh State MDG Report 2014-15
[15] Refer the section on housing

Looking at BPL Social Groups

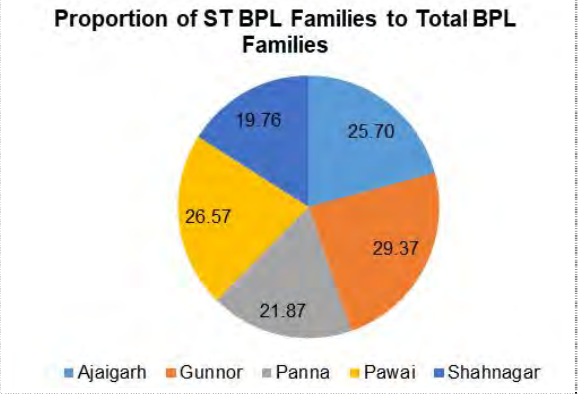


Number of BPL families is mentioned within the bracket.

More proportion of yellow card holders or poorest of the poor in SC and ST category but the numbers are high in OBC category. Rest of the categories also have substantial number of households holding yellow card. Yellow card holders form 18% of the total BPL households.

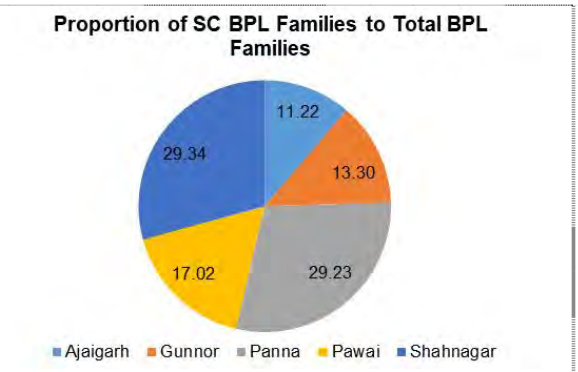


58% (1,40,736 families) of total families in Panna district are in the below poverty line category which is very high and the extent of poor households is even higher in Pawai, Shahnagar and Panna (>58%)

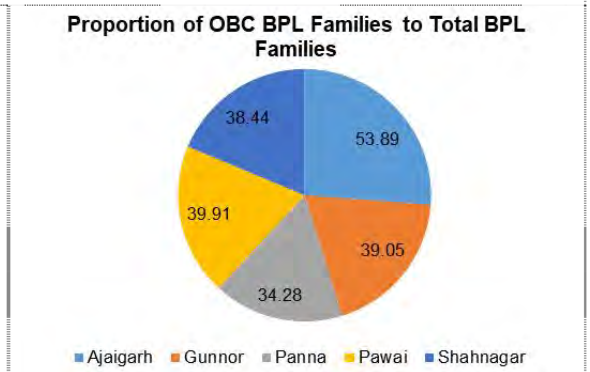


Proportion of ST BPL families is more in Gunnor, Pawai and Ajaigarh blocks. STs form 21% of total BPL families.

General category also form 15% of total BPL families.

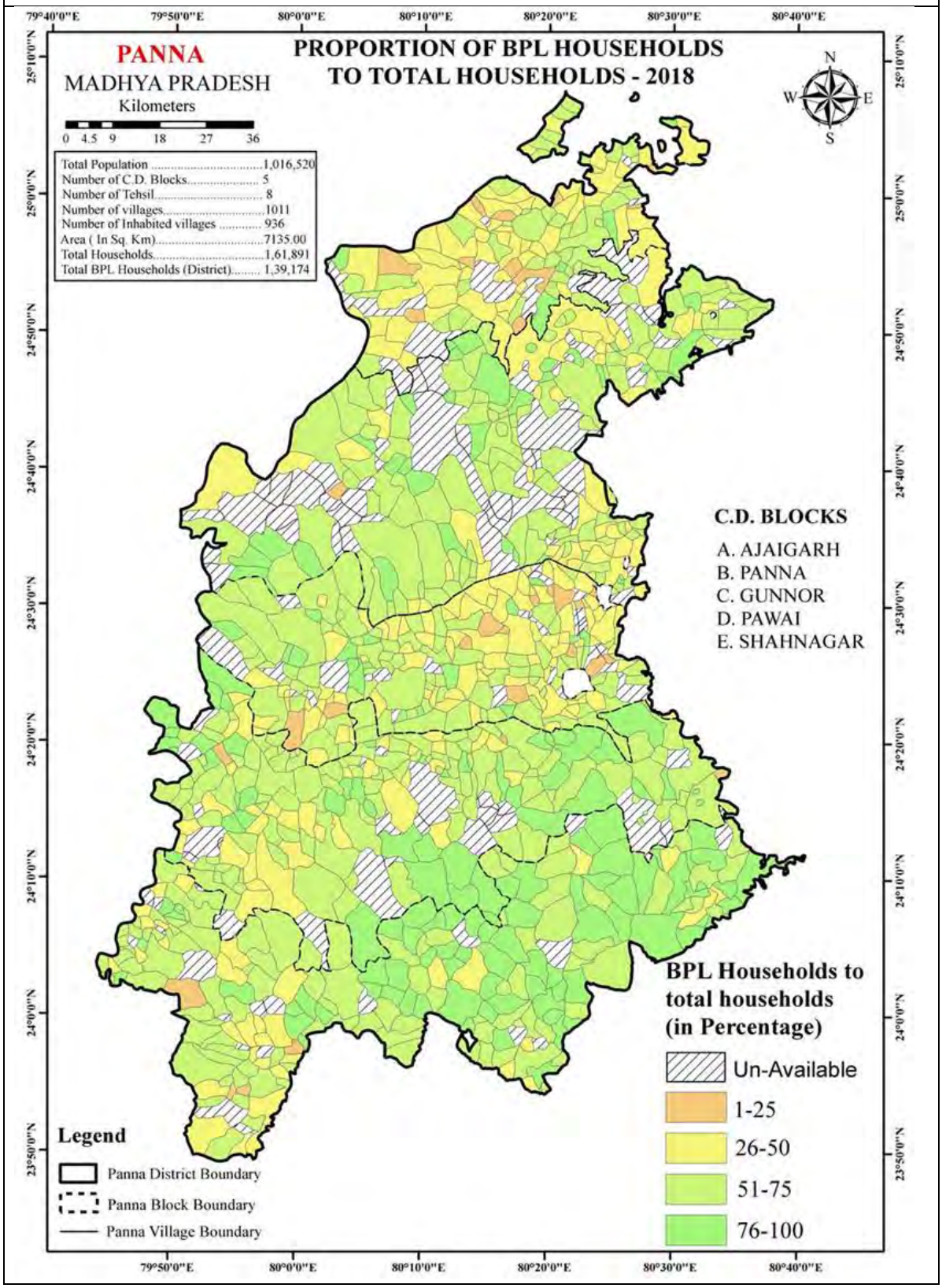


One can notice high proportion of SC BPL families in Panna and Shahnagar blocks. SC BPL families form 24% of BPL households.

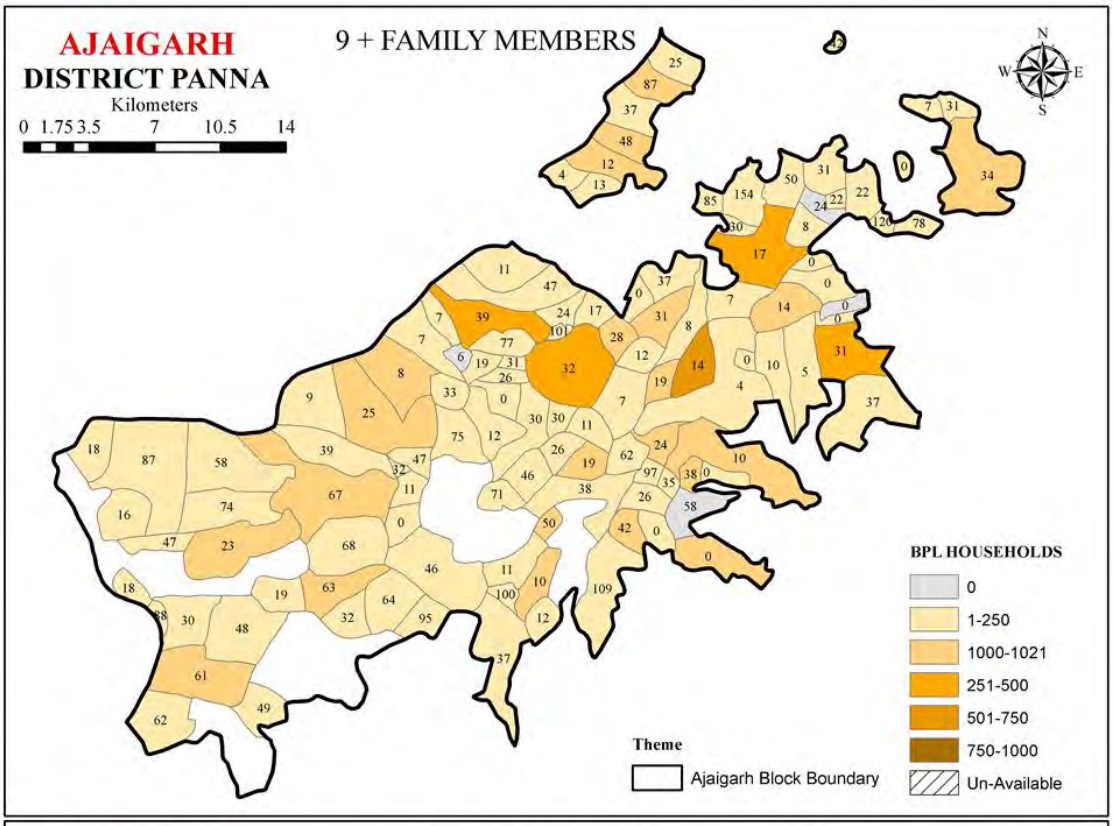


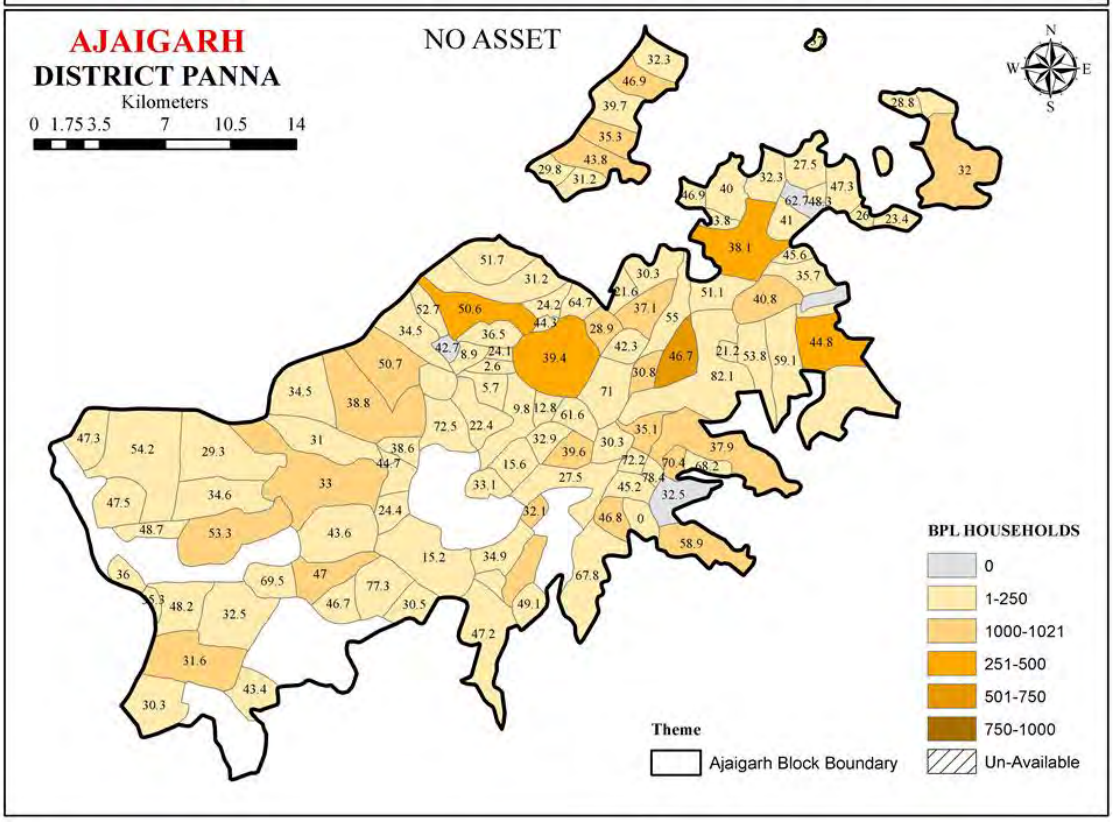
Proportion of OBC BPL families is high among all the three social groups. OBC's form 40% of the total BPL families

MAP 31 – PROPORTION OF BPL HOUSEHOLDS TO TOTAL HOUSEHOLDS (2018)

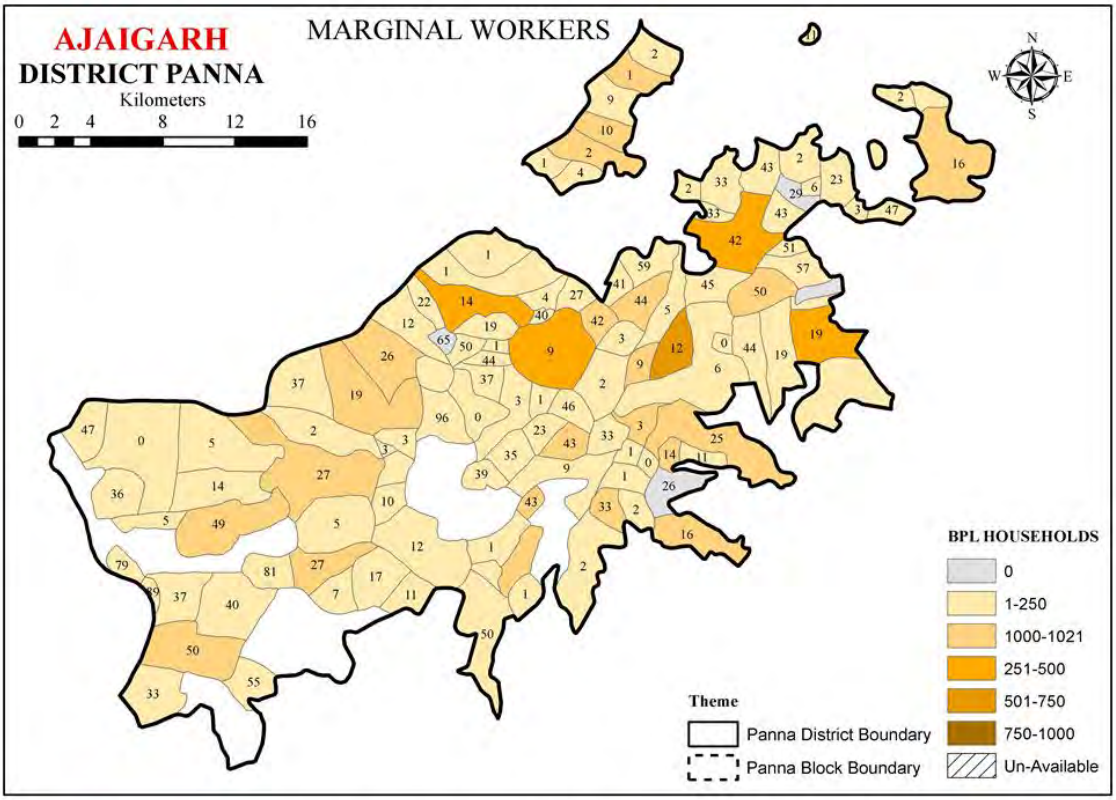


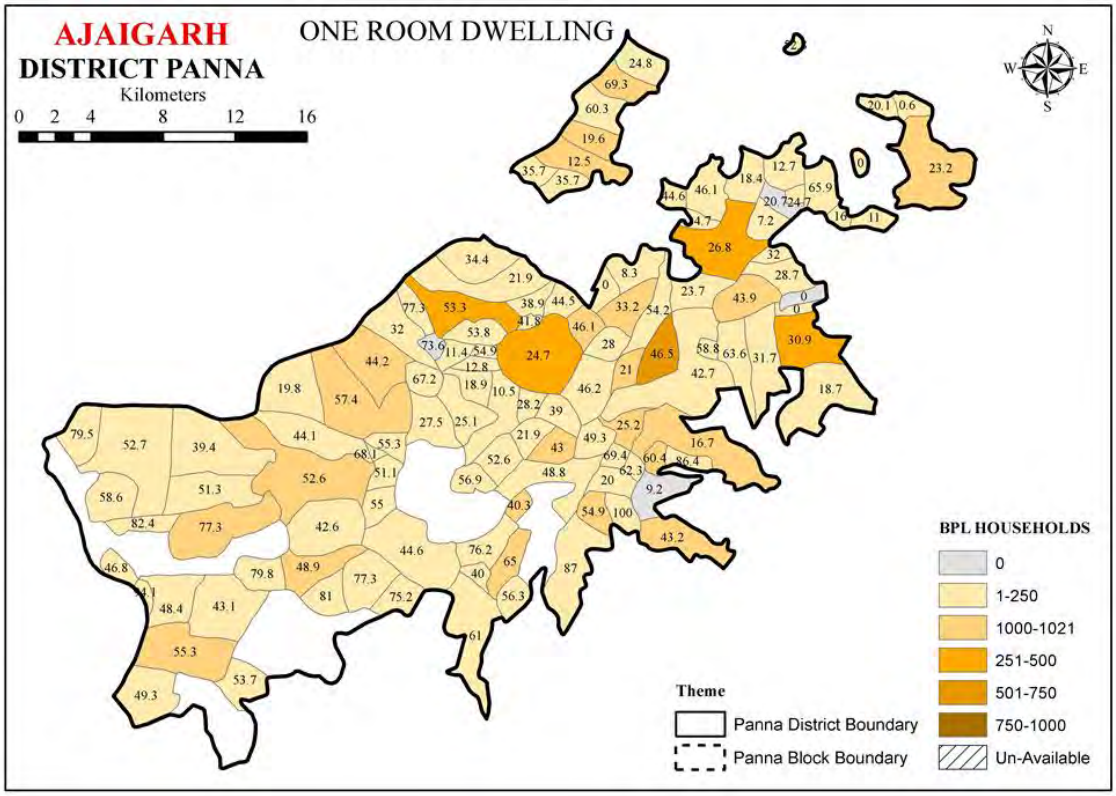
MAP 32 - INTERFACE OF HOUSING & WORKERS DATA WITH BPL DATA



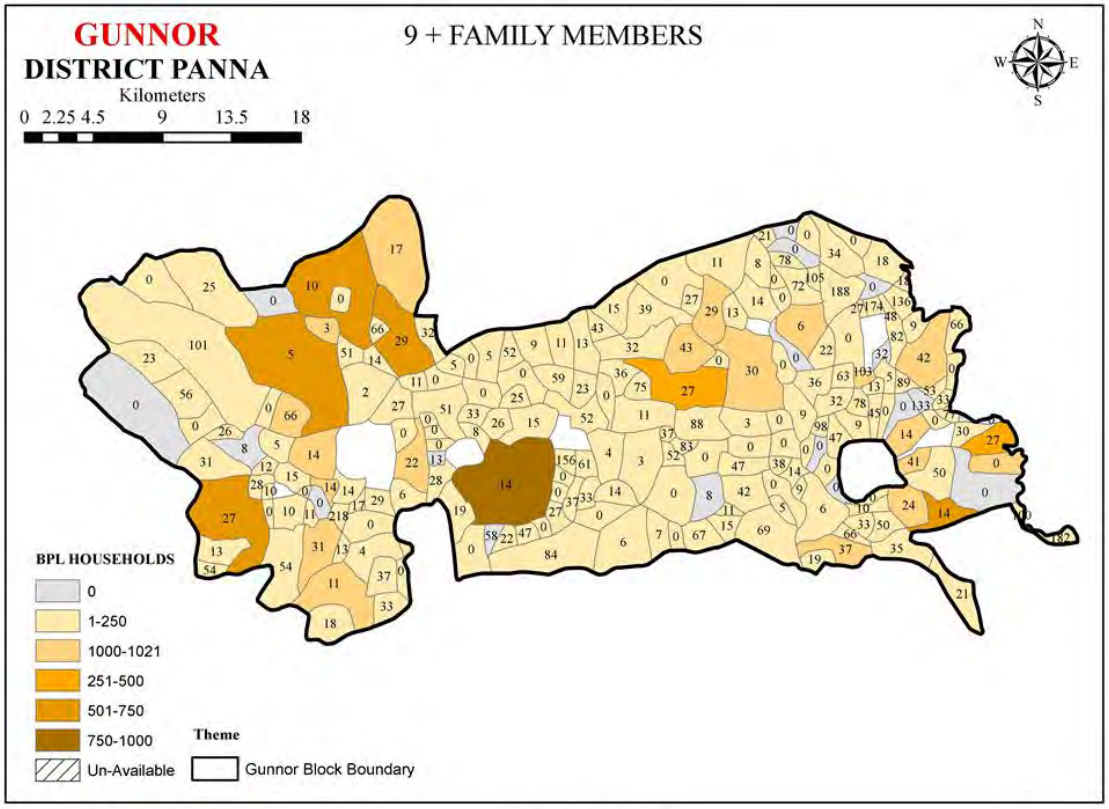


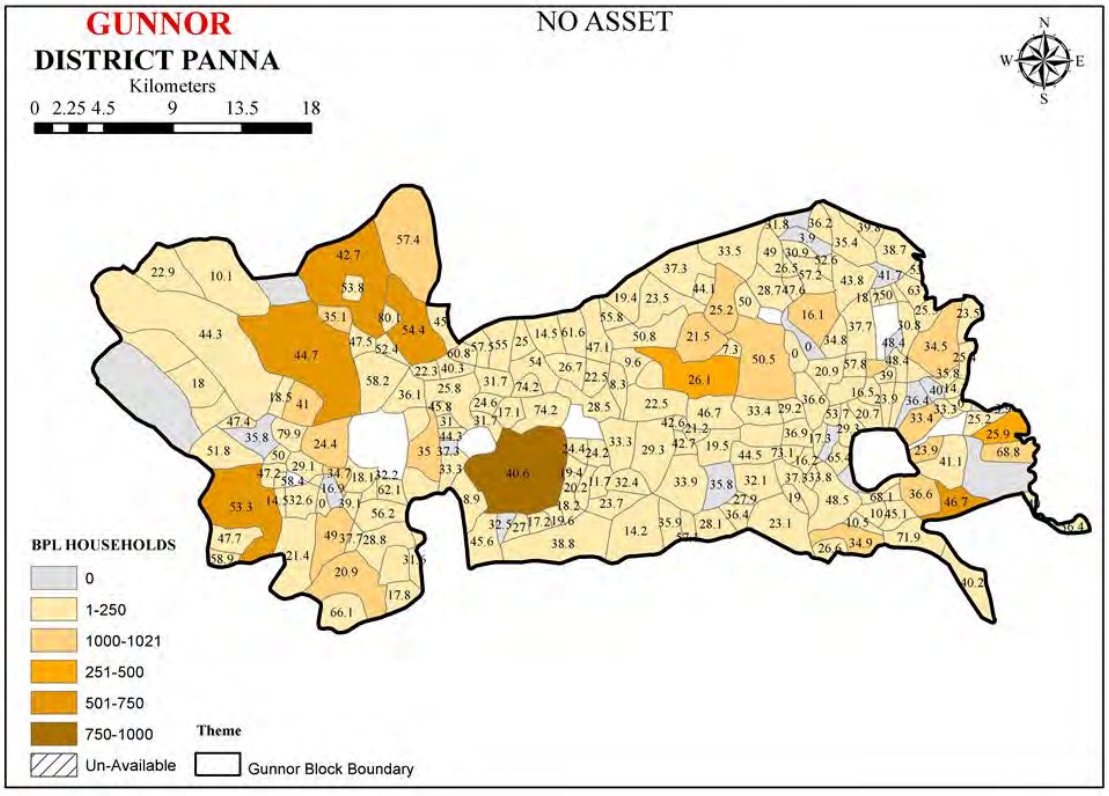
MAP 33 - INTERFACE OF HOUSING & WORKERS DATA WITH BPL DATA



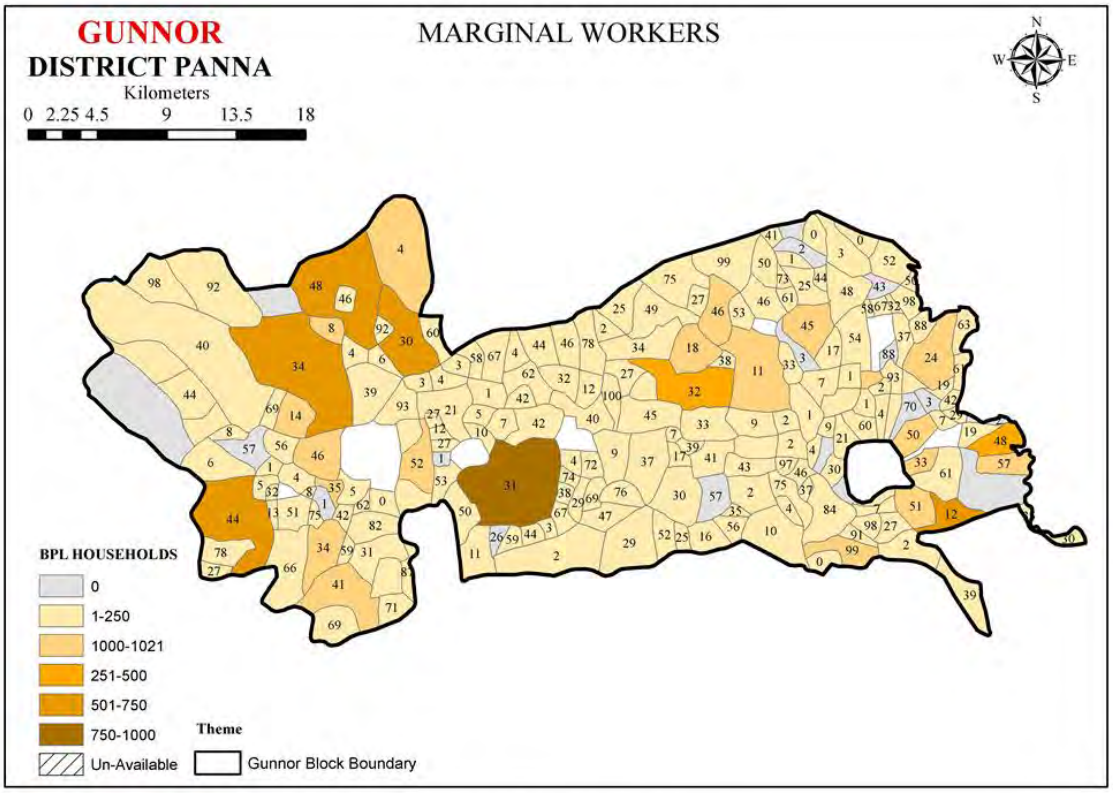


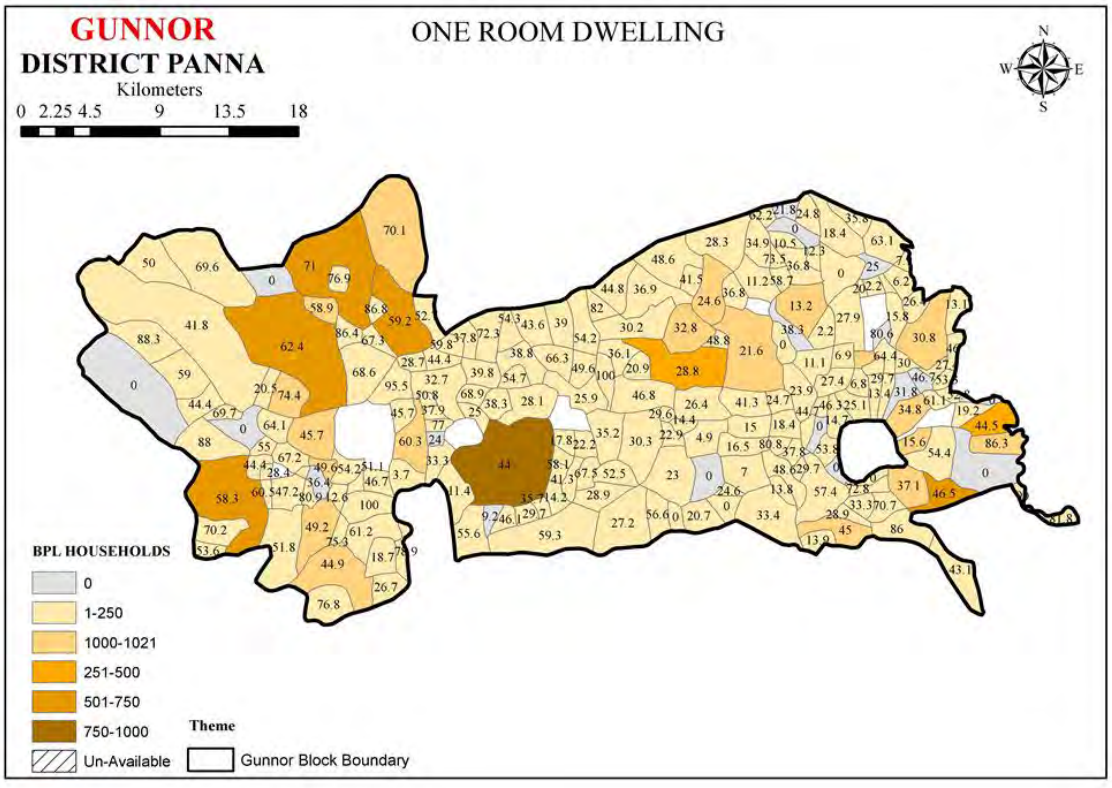
MAP 34 - INTERFACE OF HOUSING & WORKERS DATA WITH BPL DATA



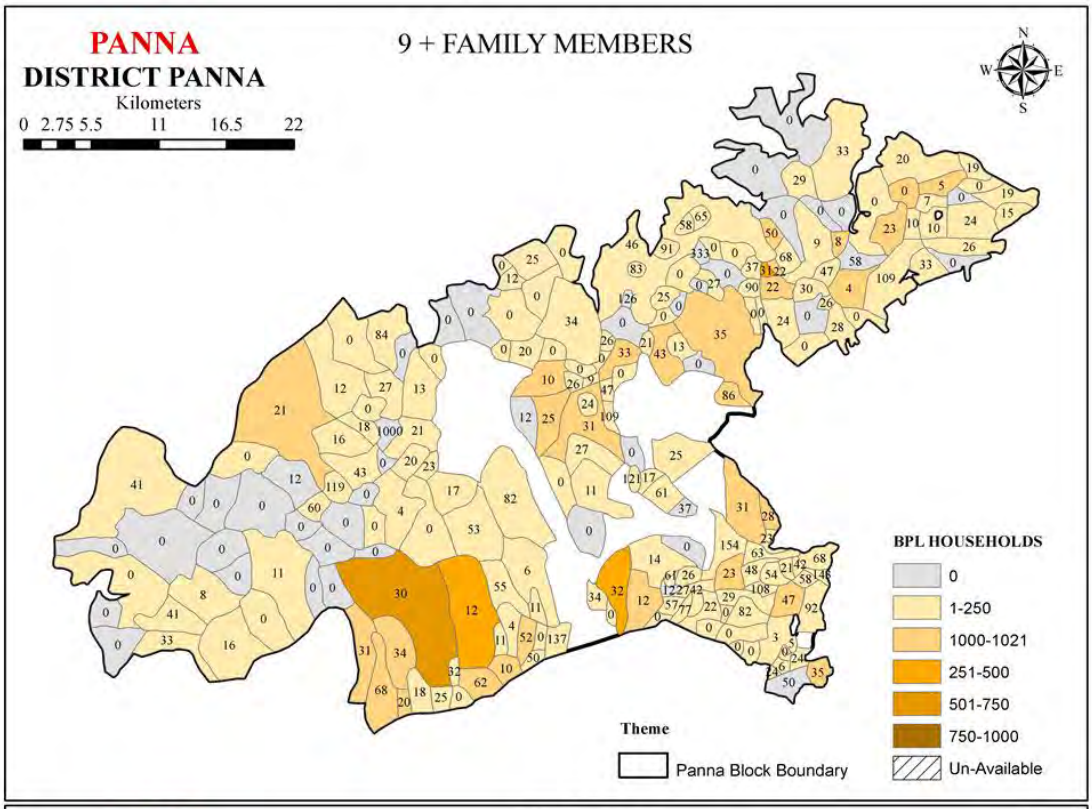


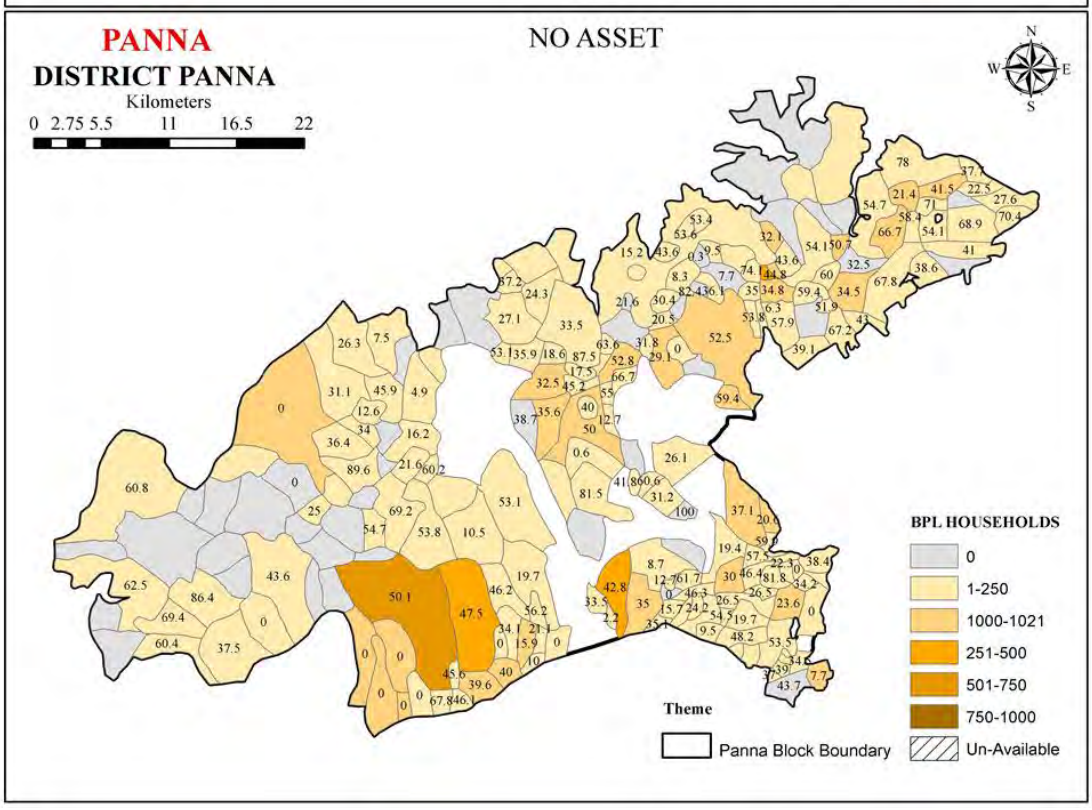
MAP 35 - INTERFACE OF HOUSING & WORKERS DATA WITH BPL DATA



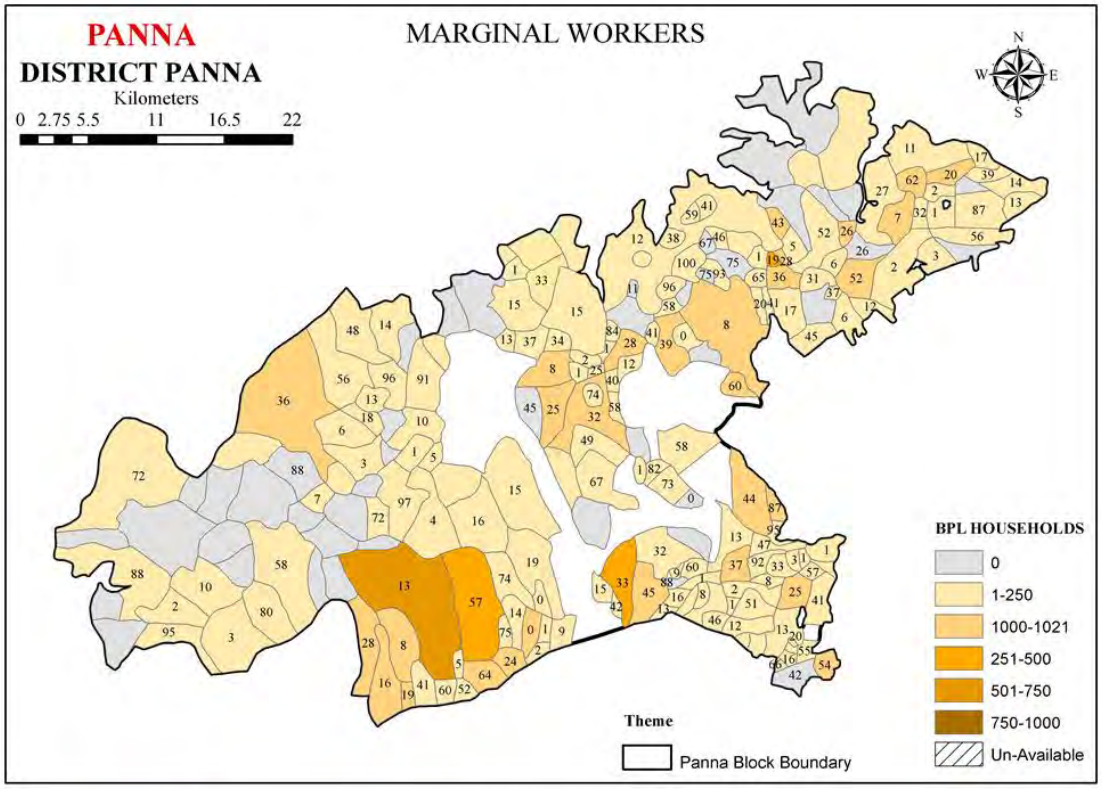


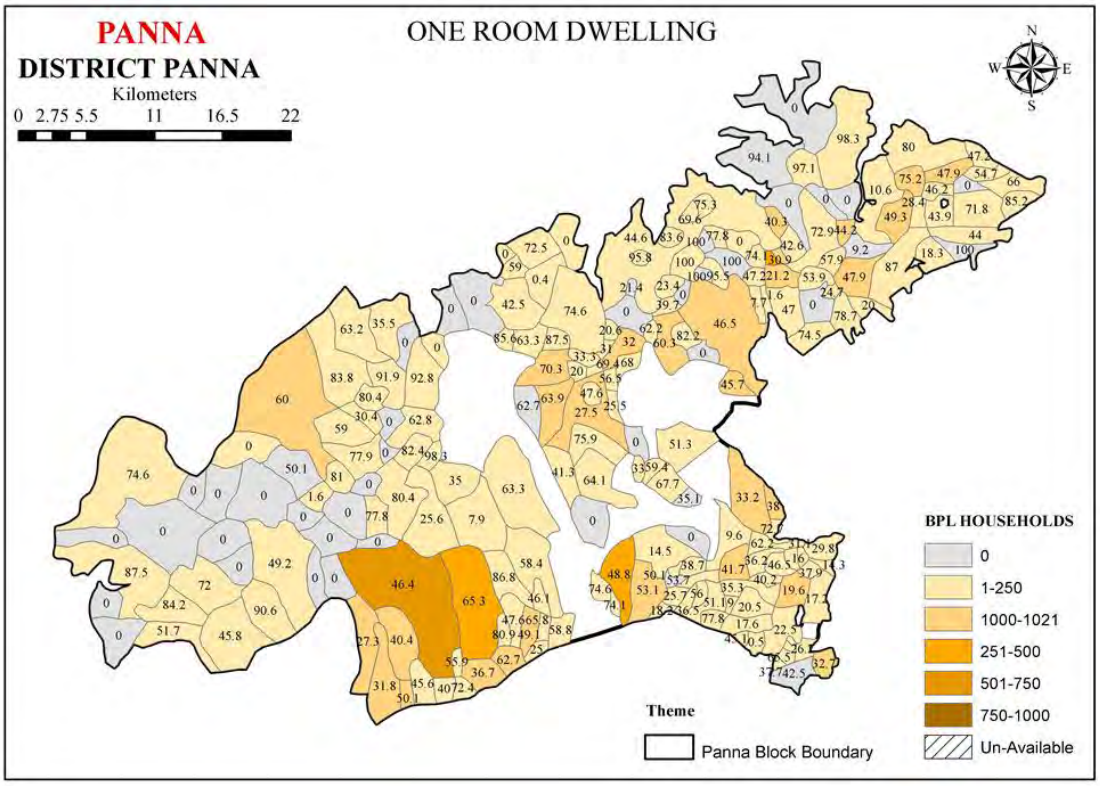
MAP 36 - INTERFACE OF HOUSING & WORKERS DATA WITH BPL DATA



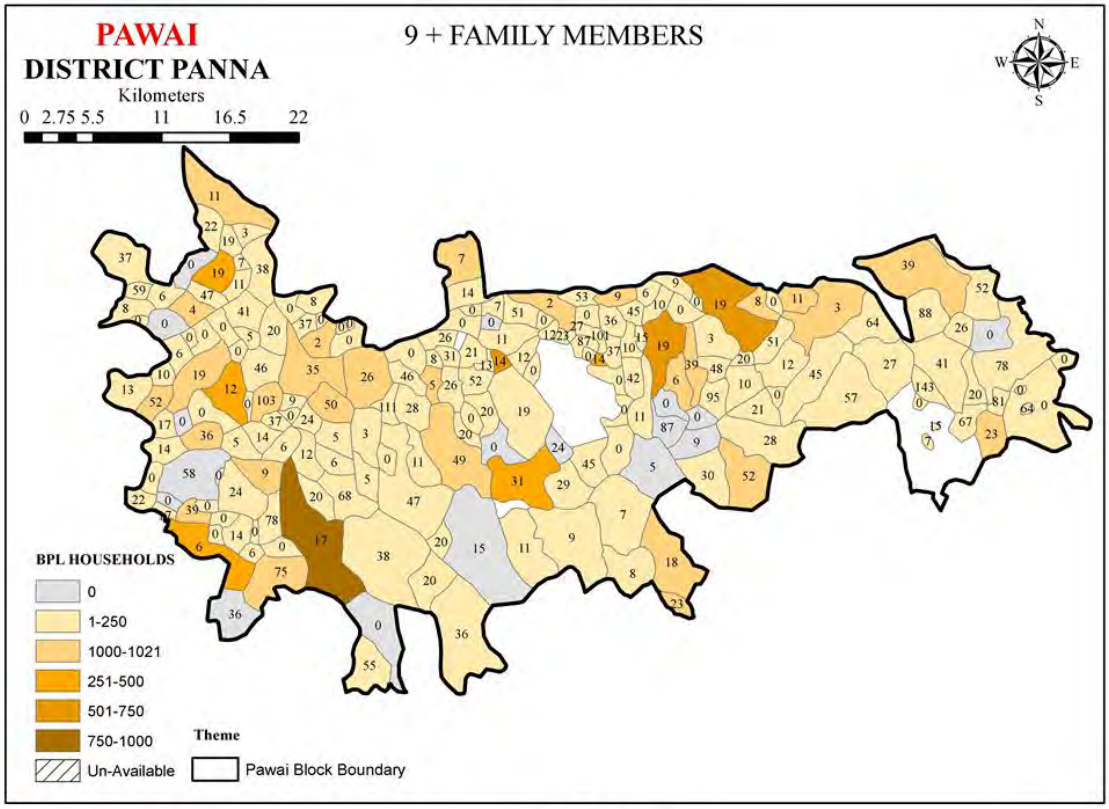


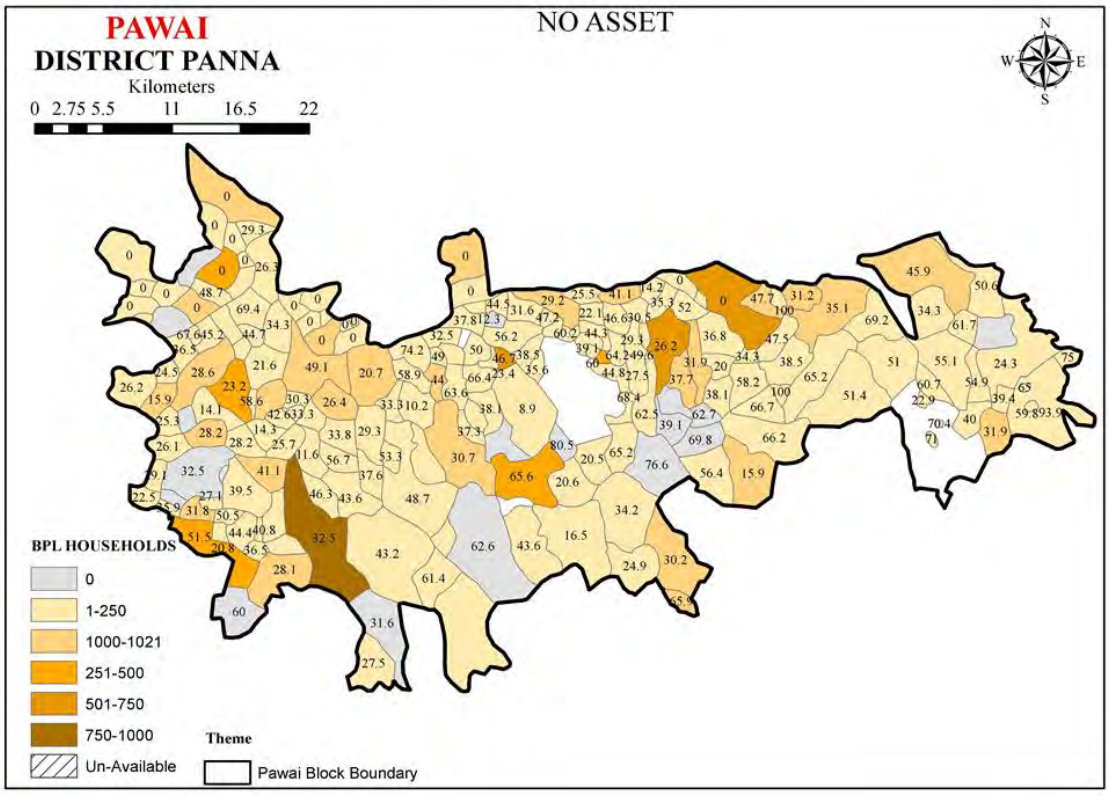
MAP 37 - INTERFACE OF HOUSING & WORKERS DATA WITH BPL DATA



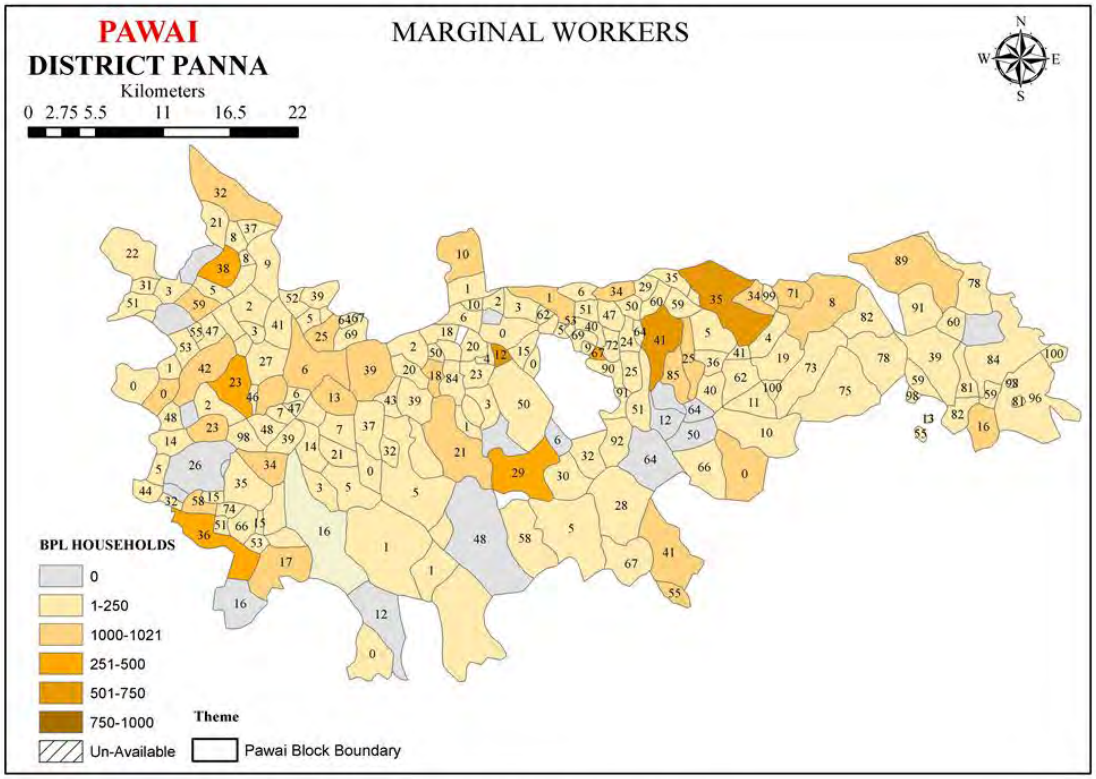


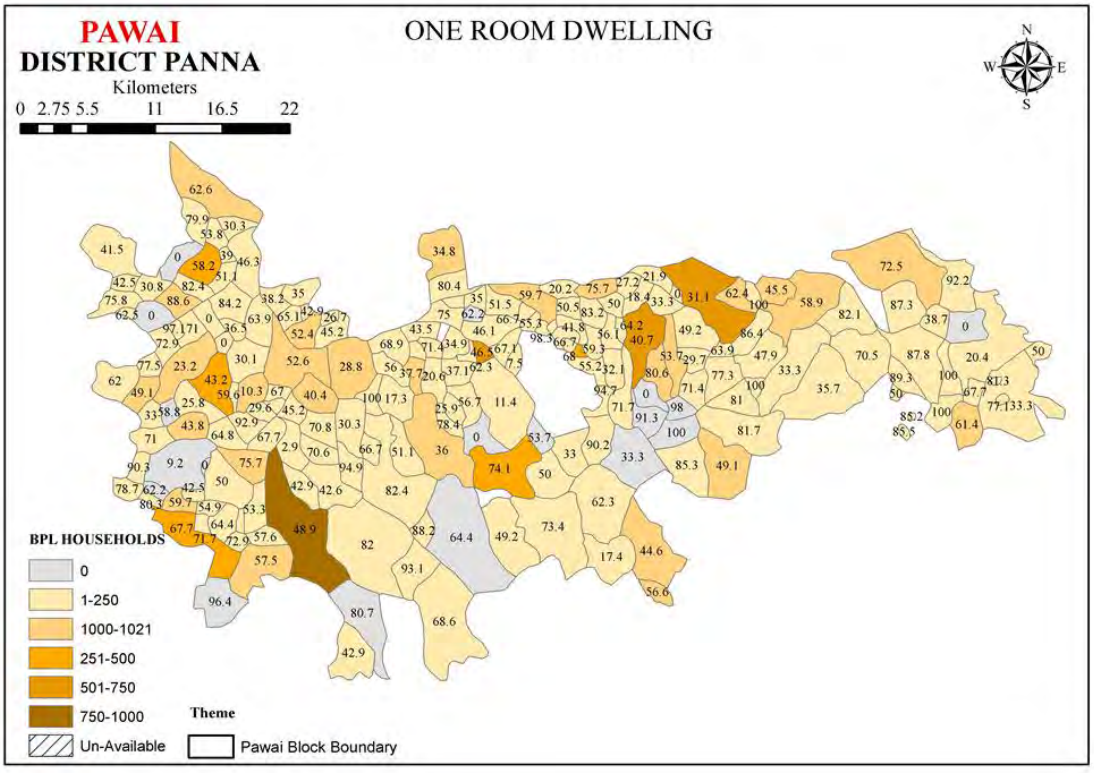
MAP 38 - INTERFACE OF HOUSING & WORKERS DATA WITH BPL DATA



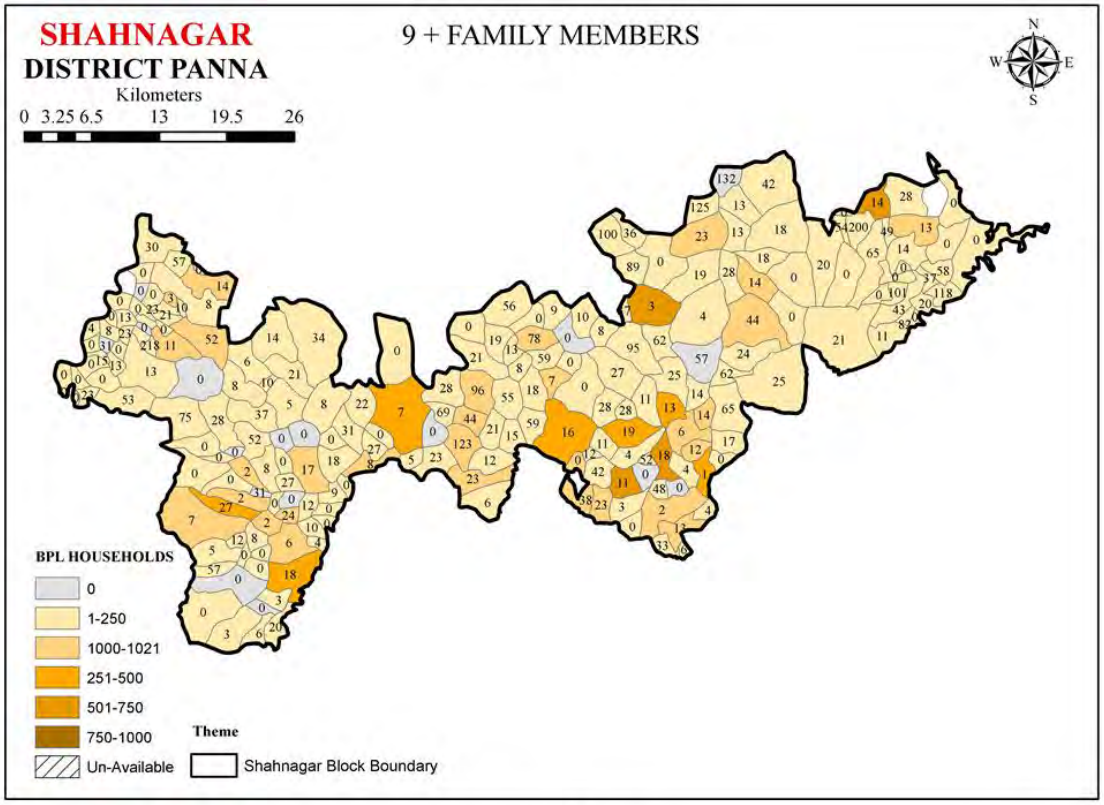


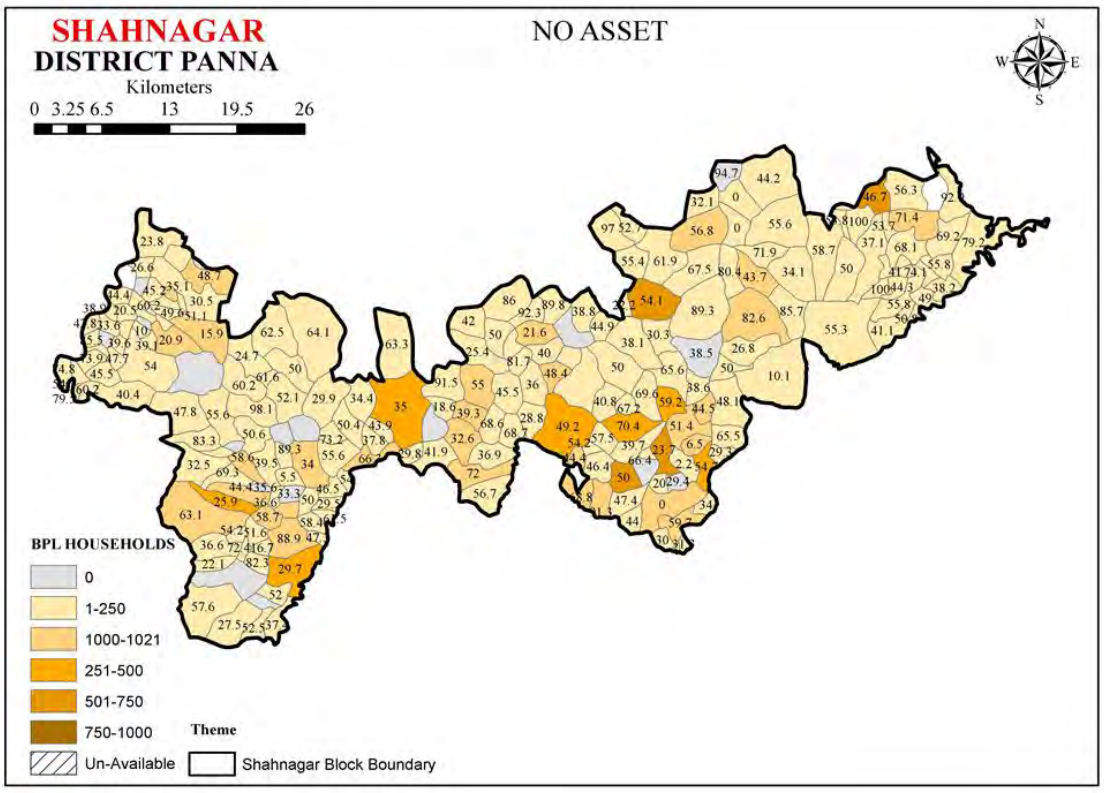
MAP 39 - INTERFACE OF HOUSING & WORKERS DATA WITH BPL DATA



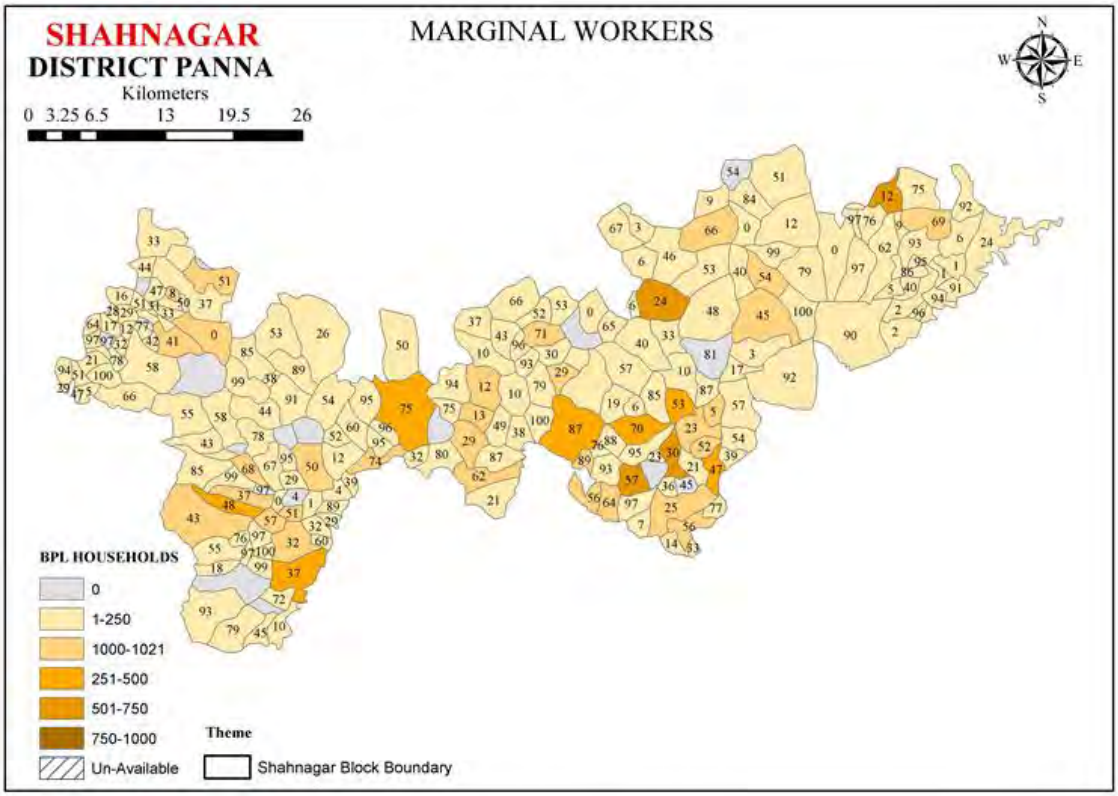


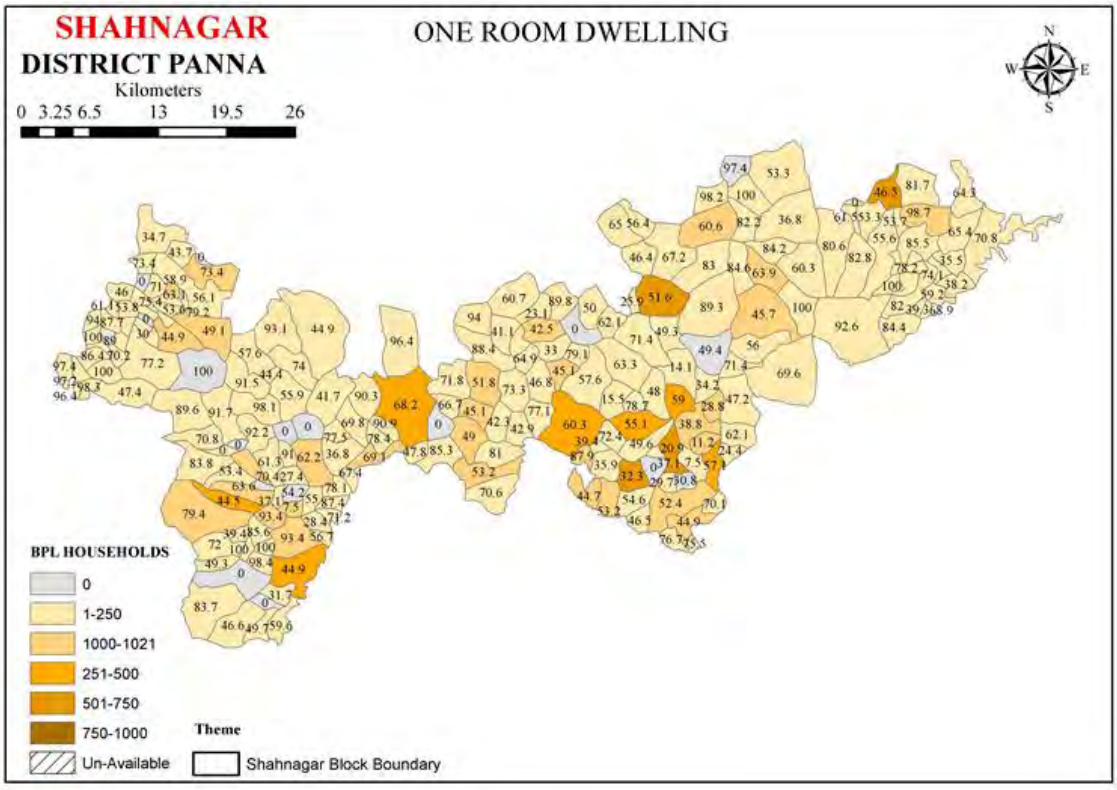
MAP 40 - INTERFACE OF HOUSING & WORKERS DATA WITH BPL DATA





MAP 41 - INTERFACE OF HOUSING & WORKERS DATA WITH BPL DATA





What we call the beginning

is often the end. And to

make an end is to make

a beginning.

The end is where we start from.

T.S.Eliot

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