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A District-wise Study of Bihar

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Asian Development Research Institute (ADRI)
BSIDC Colony, Off Boring-Patliputra Road
Patna - 800 013 (BIHAR)
Phone : 0612-2265649
Fax : 0612-2267102
E-mail : adri_patna@hotmail.com
Website : www.adriindia.org

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POVERTY AND SOCIAL ASSESSMENT
A DISTRICTWISE STUDY OF BIHAR

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I. INTRODUCTION

1.1 Poverty Scenario in Bihar

A separate concern for poverty reduction that is in addition to the concerns shown for macro development programes had emerged in India roughly during the mid-seventies, although the phenomenon of poverty has been there for a much longer time. In response, poverty has been a major area of applied economic research in India since the seventies. The core database for these poverty studies has been the estimates of the percentage of poverty-stricken population, prepared by the Planning Commission, based on the quenquennial consumer expenditure surveys of the National Sample Survey Organisation (NSSO). The poverty line to identify a poverty-stricken household in a normative consumption basket, comprising a food intake of 2400 kcals per day person in rural areas and 2100 kcals in urban areas, plus a reasonable provision for non-food expenditure.

In the specific context of rural poverty ratios in Bihar, the latest estimate, relating to the year 1999-2000, shows it to be 44.3 percent, compared to 27.1 percent for India as a whole. This level of rural poverty is only second highest in the country, the state of Orissa reporting a still higher poverty ratio of 47.2 percent. This is of course no comfort for Bihar because, being a part of the Gangetic plains, its soil fertility and water resources are much higher than those of Orissa, where a substantial part of which falls in the relatively infertile Deccan plateau. In absolute terms, the above poverty ratio implies that about 32 million people live below the poverty line in rural Bihar.

Since the beginning of the eighties, Planning Commission has estimated the poverty ratios for four years, which allow one to see the trend of poverty ratios during the decades of eighties and nineties (Table1). From these estimates on rural poverty, it is comforting to note that the poverty ratio has decreased in Bihar from 64.4 percent in 1983 to 44.3 percent in 1999-00, a substantial drop of 20.1 percentage points. The decrease in India during the same period was 18.6 percentage points, from 45.6 to 27.1 percent. This reduction in rural poverty was a steady process in India as a whole; but, in Bihar, it had increased between 1987-88 (52.6 percent) and 1993-94 (58.2 percent). In the absence of such an atypical phenomenon, the rural poverty ratio in Bihar would have probably registered a steeper fall during the eighties and nineties. Indeed, between 1993-94 (58.2 percent) and 1999-00 (44.3 percent), the fall in rural poverty ratio in Bihar was as much as 13.9 percentage points, the

Table 1: Poverty Ratios in Bihar and India

Sector	Years	Bihar	India
Poverty Ratios			
Rural	1983	64.4	45.6
	1987-88	52.6	39.1
	1993-94	58.2	37.3
	1999-00	44.3	27.1
Urban	1983	47.3	40.8
	1987-88	48.7	38.2
	1993-94	34.5	32.4
	1999-00	32.9	23.6
Cobined	1983	62.6	44.5
	1987-88	52.1	38-9
	1993-94	55.0	36.0
	1999-00	42.6	26.1
Annual Reduction in Poverty Ratio (Percentage Points)			
Rural	Eighties	1.3	1.1
	Nineties	1.2	1.2
Urban	Eighties	0.8	0.8
	Nineties	1.0	1.3
Combined	Eighties	1.2	1.0
	Nineties	1.2	1.2

highest in the country. If one prepares an estimate of 'annual reduction in poverty ratio', it is observed that this speed of reduction (about 1.2 percentage points per year) has been nearly the same in Bihar and India. Thus, the overall rural poverty situation in Bihar can be described by two major observations — first, it is still the worst in the country, leaving Orissa; and the second, a redeeming one, that the poverty ratio in Bihar is dropping as steadily as in India as a whole.

Although a large number of poverty alleviation programme, financed largely by the central government make their own contribution towards the decline of poverty ratios, it is the growth of the economy that contributes most forwards such decline. For the overall Indian economy, a study has estimated that no less than 85 percent of decline in poverty ratio is indeed mediated by the growth process, the contribution of others, including the poverty alleviation programmes, being limited to only 15 percent (Dutt, 2002). One can, therefore, easily relate the none-to-small reduction in rural poverty in Bihar to a moderate growth of its agricultural economy during the eighties and nineties. Apart from the local employment and income opportunities that arise out of the state's own growth performance, the poverty ratios in Bihar, for both rural and urban areas, are also influenced by the phenomenon of extensive out-migration of workers, most of whom are from the poorer households. Taking the extent of male migration into account which better approximates the work-related migration, it is observed that the net inter-state inter-census migrants as percentage of total population was 1.18 in 1981 in Bihar, but it had increased to 1.32 in 1991. This implies that between 1981 and 1991, an additional 17-lakh males had out migrated from Bihar. The detailed migration data from 2001 census is not yet available, but is very likely that the trend of eighties had continued during the nineties also.

1.2 Social Profile of the Poor

India's rural economy in general and that of Bihar in particular, are entirely dependent on land and agricultural activities. A few other non-agricultural activities like animal husbandry or fishery are also land-related and carried out largely as a household-level petty production activity to supplement agricultural income, and is rarely treated as an independent occupation. Thus, not having adequate land is the principal reason for rural poverty in both Bihar and India. Landless and land-poor households, therefore, constitute the large bulk of 'below poverty line' households throughout the country. According to one estimate, nearly 70 percent of the landless wage earners and nearly 45 percent of the marginal farmer households in India live below poverty line (NCAER, 1996). That the

rural poverty ratios are much higher in Bihar is easily explained by large number of landless and marginal farmer households here. As regards landless rural households, they constitute 50.2 and 38.6 of the total number of rural households in Bihar and India respectively; for marginal farmer households, the shares are 21.8 and 15.3 percents. (Table 2).

Table 2 : Distribution of Rural Households by Religion-Caste and Landholding Groups in Bihar and India

	Bihar	India
Religion/Caste Groups		
Upper caste Hindus	4.2	18.9
Backward caste Hindus	54.2	33.5
Scheduled caste Hindus	23.4	20.2
Scheduled tribes	2.0	11.2
Muslims	15.8	10.4
Others	0.5	5.8
Total	**100.0**	**100.0**
Landholding Groups		
Landless	50.2	38.6
Less than 1 acre	21.8	15.3
1-5 acres	22.0	34.3
5 + acres	6.4	11.8
Total	**100.0**	**100.0**

Source : IIPS (2000)

Thus, these two vulnerable groups constitute more than 70 percent of the households in rural Bihar, compared to about 54 percent in India as a whole. Thanks to the historical trends in agrarian relations, this land distribution pattern is more iniquitous in north Bihar than in south Bihar.

Such non-egalitarian landholding pattern and associated asymmetric agrarian relations are probably symptomatic of all traditionally agricultural societies; what, however, differentiates the Indian and Bihar scenario from the rest is substantial parallelism between two distributions of households — one along their landholdings and other along their religion and caste backgrounds. The scheduled castes Hindus are the most disadvantaged social group in terms of land endowment and they constitutes about one-fifth of the households, both in India as whole and Bihar. Nearly all of them are landless and this phenomenon of land poverty is also very wide among the Muslim households, the latter forming a much larger part of the rural population in Bihar (15.4 percent) than in whole of India (10.4 percent). The social group of backward caste Hindus is a large one comprising numerous castes, and it is a very heterogeneous category. Some of these castes have indeed agriculture or related activities as their caste occupation and thus own some land; but many households from these

backward castes (mostly with traditional services as their caste occupation) are either landless or severely land-poor and thus live below poverty line. Caste and religion are used extensively by rural households (and may be even urban households) as a strong 'reference group' determining their social behavior and, therefore, the economic segmentation of the rural households along land endowment and their social segmentation along religion/caste background reinforce each other, preventing social and economic mobility.

An analysis of the distribution of rural workers, using 1991 and 2001 census data, among three major occupation groups in India and Bihar again underlines the relatively more strenuous livelihood patterns that rural poor in Bihar is forced to adopt. (Table 3)

Table 3 : Sectoral Distribution of Rural marks in Bihar and India (1991 and 2001)

Census Years/Sectors	Bihar	India
1991		
Cultivator	47.0	48.5
Agricultural Labour	39.4	31.8
Non-farm workers	13.6	19.7
Total	**100.0**	**100.0**
2001		
Cultivator	33.6	40.1
Agricultural Labour	48.6	33.2
Non-farm worker	17.8	26.7
Total	**100.0**	**100.0**

Indicating a still growing phenomenon of landlessness, it is observed that the proportion of cultivators among the rural workers have declined everywhere; but the decline is much sharper in Bihar than in India as a whole. Many studies in the recent past have stressed the crucial contribution that rural non-farm employment could make towards strengthening rural economy and alleviating rural poverty, since the absorption capacity of land seems to have reached its maximum, at least with the present level of its technological base (Chaddha, 2000). In many areas, specially those with high demographic pressure on land like Bihar, it is probably wiser to invest adequately in rural infrastructure (like roads and electricity) to generate additional employment opportunities than to invest in agricultural production alone.

Secondly, this phenomenon of increased land-poverty is India as a whole is accompanied by a substantial increase in the share of rural non-farm workers and a small increase in the share of agricultural labourers. But in Bihar, the increased land-poverty has led to swelling of the ranks of

agricultural labourers, with only a modest increase in the opportunities for rural non-farm employment.

1.3 Approaches to Poverty Reduction

Any macro developmental effort that aims at increased employment and income opportunities or expansion of social benefits like education or health, is likely to impact the poverty scenario. But it has been a worldwide general experience that only a small part of the benefits of such macro development programmes reach the very poor; the process of 'trickling down' of development benefits to the poor is extremely slow. And poverty cannot be eliminated through such interventions alone. Thus, poverty alleviation demands programmes that aim to directly help the poor, instead of the entire population. The rationale for such targeted poverty alleviation programme is that their benefits or social returns are higher for the population at lower end of the income distribution than at the upper end. Within this broad objective, the government has launched several targeted poverty alleviation programmes (PAP) in India. For further efforts in this direction, it is desirable to understand the rationale for different types of programmes as well as analyse their impacts. Broadly speaking, these programmes can be grouped into three categories, each trying to remove a particular dimension of the socio-economic disadvantage suffered by the poor.

In the first category, one may group all those poverty alleviation programmes that aim to raise 'directly' the existing income and consumption levels of the poor households. At present, major programmes under this category can again be sub-grouped into the following four heads — (a) Self-employment Programmes, (b) Wage-employment Programmes, (c) Public Distribution System (PDS) and Nutrition Programmes, and (d) Social Security Programmes. For promotion of self-employment, most important programmes are Swarnajayanti Grameen Swarojgar Yojana (SGSY). For wage-employment, it is National Rural Employment Guarantee Programme (NREGP) which now enjoys the largest resource support. The Public Distribution System, now redesigned as Targeted Public Distribution System (TPDS) aims to enhances the food consumption of the poor through provision of subsidized foodgrains. Finally, there are a number of social security programmes, like National Old Age Pension Scheme (NOAPS), which try to ameliorate the poverty of aged and other seriously disadvantaged persons.

The second category of poverty alleviation programmes has a distinctly different approach to the problem, taking into account the capability poverty of the poor households. These incapability arise from their low literacy rates, poor health and nutrition standards, poor living standards in terms of

housing, drinking water and sanitation facilities and some other social constraints. Under these circumstances, the poor should not only be enabled to cross the poverty line through programmes listed before, there should also be simultaneous effort to improve their human development status in terms of education, health, nutrition, skills and assets so that they can ultimately stay above the poverty line, even without the external government support for income and consumption. This demands adequate resource allocation and increased efficiency for various delivery systems, particularly those for education and health. Two important programmes serving that particular objective are Sarva Siksha Abhiyan (SSA) and National Rural Health Programme (NRHP). In addition, the enhancement of the capability of the poor also demands simultaneous efforts to create appropriate institutions for empowerment of the poor so that they can participate in decisions relating to the delivery system and hold the system accountable when it fails to serve them. Strengthening of Panchayati Raj Institutions (PRI) is one of the attempts of the government for empowering poor. Collective action is at the core of such empowerment and, therefore, the government has also consciously promoted all institutions that facilitate collective actions, like Self-Help Groups (SHG), cooperative societies, non-governmental organizations (NGO), Forest Protection Bodies and the like.

The third category of government interventions for removing poverty had emerged in the nineties where the focus of attention is sustainable livelihoods for the poor households. In this framework, a livelihood is defined as 'comprising the capabilities, assets and activities required for a means of living.' Further, a given livelihood option is considered to be sustainable when it can help the poor to cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in future, while not undermine the natural resource base (DFID, undated). In this sense, the sustainable livelihood approach is broad and encompasses six core objectives— (i) improved access to education, information and training, together with better health and nutrition, (ii) a supportive social environment, (iii) secure access to and better management of natural resources, (iv) availability of basic and facilitating infrastructure, (v) secure access to financial resources and, finally, (vi) a policy and institutional environment that supports multiple livelihood strategies and promotes equitable access to competitive markets for all. As mentioned before, such livelihood-oriented government interventions for poverty alleviation in India are of relatively recent origin.

Although it is important to differentiate among the above three approaches for poverty alleviation programmes in India, it should also be noted that these approaches are not contradictory or anti-thetical to each other. Thus, historically, the initial attempts for poverty alleviation was along the

first approach of providing income opportunities and subsidizing consumption; later, these programmes were supplemented by the efforts towards empowerment of poor which could help them overcome their capability poverty; and still later, there have been additional interventions which could ensure a sustainable livelihood for the poor through capacity building, institutional support and better management of natural resources. At present, all these approaches are being followed simultaneously, choice for a particular approach depending on the local needs and the policy orientation of the resource provider.

1.4 Objectives and Methodology of the Study

Government of Bihar (GOB), through the Bihar Rural Livelihood Promotion Society (BRLPS), is planning a major intervention for promoting rural livelihood opportunities in rural Bihar with financial support from the World Bank. The project aims to attain its objectives by developing organization of the rural poor and producers to enable them to access and negotiate better services, credit and assets from public and private sector agencies and financial organizations. The project also plans to invest in building capacity of public and private service providers. The preparation of the project will have the following key elements — (a) identifying existing innovations in various areas and help in developing processes, systems and organizations for sealing up these innovations; (b) focusing on the poor — vulnerable and disabled members of the community; (c) building and empowering institutions and organizations — community, public and private; (d) focusing on stimulating productivity growth in key livelihood sectors and employment generation on the project area; and (e) project investments which are catalytic in nature to spur public and private investment in the poor.

The extent of poverty in Bihar as a whole is very high, and the above interventions are desirable in every region of the state. However, even at this high level of poverty, its severity in different regions or districts of Bihar is not uniform. Along with a small number of districts where agricultural productivity is reasonably high resulting in lesser incidence of poverty, there are other districts where conditions of the local economy are very poor and the level of poverty is extremely high. Thus, some districts need effective government interventions for poverty alleviation far more urgently than others. In addition, social condition of the people across different districts is also dissimilar, calling for very district-specific strategies that could ensure the success of various development programme.

In this background, the objectives of the present study are to assess the poverty and the social conditions in different districts of Bihar, which could help in identifying the districts where the development interventions are most needed. The identification of such regions should be based not only on the existing levels of poverty in different districts, but it should also take into account the vulnerability of poor households in terms of their social background or the vulnerability of the overall region to such natural threats as flood and drought. For an effective development intervention, in addition to identifying the districts where such interventions are most needed, it is also imperative to characterize the selected districts in terms of their respective livelihood potentials as well as their social capital base, which together determine the outcome of all planned interventions. The present study has, therefore, the specific objective of classifying 38 districts of Bihar with respect to four characteristics— (a) levels of poverty, (b) extent of vulnerability, (c) availability of livelihood potential and (d) strength of social capital. Each of these the classification exercise divides the 38 districts of Bihar into 5 clusters along an ordinal scale. At the centre of this 5 point ordinal scale lies the cluster for which the existing conditions with respect to a given characteristics (say, poverty levels) are at an 'average' level. There are two clusters on either side of the average cluster for which the existing condition are either 'above average' or 'below average'. Similarly, there are two other clusters, again on either side of the average cluster, for which the existing condition are either 'much above average' or 'much below average'. Of the 38 districts, 8 districts each are classified as 'average', 'below average' and 'above average' districts; the two extreme clusters— 'much below average' and 'much above average'— having 7 districts each. As detailed below, for each of the four characteristics, mentioned above, the study has used multiple indicators.

Poverty

For classifying the districts with respect to the level of poverty, the first indicator is the percentage of rural population living below poverty line in each district. Generally, these poverty estimates are available for the state as a whole. However, for 1993-94, a study had prepared the district wise estimates for 29 districts, as they existed in that year. Later, some of the areas were partitioned to form the present 38 districts. For all those districts, which were later partitioned, the overall poverty estimate has been used for each of the comprising smaller districts. Secondly, the 2001 census had

collected information on household not having any of the following 6 consumer durables—car/jeep/van, telephone, scooter/motor cycle/ moped, television, radio/transistor and bicycle. This obviously provides an alternative indicator of poverty of rural households. Yet another indicator of poverty is the percentage of rural households living in one room, information on which is again available from the 2001 census.

The very phenomenon of some able-bodies adults being engaged as marginal workers indicate a strenuous livelihood practice and, as such, the phenomenon is more visible among the poor households, for both men and women. However, if a woman is a marginal worker, this is indicative of higher poverty of the household, since such work is often the last resort of the poor as a survival strategy. The study, therefore, used 'work participation rates of females as marginal workers' as the fourth indicator of the level of poverty in different districts.

Thus, the present study has used the following four different indicators of rural poverty in all:

(i) Percentage of rural population living below poverty line

(ii) Percentage of rural households not having any consumer durable

(iii) Percentage of rural households living in one room.

(iv) Work participation rate of females as marginal workers.

Social Vulnerability

The vulnerability of a rural household to poverty is determined both by its asset holdings as well as its social standing vis-à-vis religion and caste. Based on the available secondary data, the study has first taken into consideration the extent of landlessness of rural households as a relevant indicator of social vulnerability. In the rural areas, especially in Bihar, land is the principal base of occupation and, quite often, it is probably the only occupational option. In the absence of any reliable data on percentage of landless household, the study has used 'percentage of rural workers engaged as agricultural labourer' as an indicator of the severity of the asset constraint faced by rural households in having a decent livelihood option. The relevant data is available from the 2001 census. Admittedly, some rural households may have non-farm activities as their principal occupation, but such households are likely to be rather limited in number.

As regards social backgrounds, the percentage of scheduled tribe population is very small (less than 1 percent) in Bihar, but the scheduled castes are sizeable in number and the two together accounts for 17.4 percent of the total population. For a number of sociological reasons, which ultimately lead to their exclusion from most development programmes, the SC/ST households are socially

vulnerable, even when they are fortunate enough to have an asset base, as in the case with some ST households. The study has, therefore, used 'percentage of SC/ST among the rural population' as a second indicator of social vulnerability of the districts. As regards the data for this indicator for different districts is available from the 2001 census.

Muslims does not constitute a homogeneous community in rural Bihar, vis-à-vis their asset holdings, especially land. But, a majority of them are land-poor, their educational levels are low and, finally, for historical reasons, there is a social divide between them and the Hindus. The present study, therefore, considers the presence of Muslim household as an additional dimension of social vulnerability of the rural population. In the absence of 2001 census data on the percentage of Muslim population in different districts of Bihar, the study has utilized the data relating to the previous census in 1991. Thus, the social vulnerability of the rural people in a district is finally ought to be judged in this study using the following three variables:

(i) Percentage of rural workers engaged an agricultural laborers

(ii) Percentage of SC/ST among the rural population, and

(iii) Percentage of Muslims among the rural population

Earlier, it was mentioned that the phenomenon of vulnerability includes both social vulnerability, as captured by the above three variables, as well as natural hazards like flood and drought. Although both these threats, particularly flood, are substantial for many districts of Bihar, they could not be included in the analysis because of non-availability of district-specific data on them.

Livelihood Potential

The principal base for earning livelihood in rural Bihar is land. However, the utilization of this critical resource is not uniform in all the districts; it varies depending upon the availability of irrigation facilities, which allow for higher cropping intensity, and also wider use of modern agricultural inputs leading to higher land productivity. Thus, the study uses three indicators of the land-based livelihood potential— per capita availability of land, cropping intensity and agricultural productivity. In addition to land, rearing of livestock is also an important source of livelihood in rural Bihar. Finally, the presence of a town within the district provides a larger market for the agricultural and livestock produces and, thus, level of urbanization in a district also indicates the overall livelihood potential in its rural areas, albeit indirectly. Thus, for judging the overall livelihood potential in the rural areas of a district, the present study has taken into consideration the following 5 variables:

(i) Cultivable land per rural household

(ii) Cropping intensity

(iii) Agricultural productivity (yield of paddy in tonnes / hectare)

(iv) Bovine population per 1000 population

(v) Percentage of urban population

The demographic data for the above variables was obtained from the 2001 census; the data on cultivable land and paddy cultivation, relating to the year 2003-04, from the Government of Bihar; and that on bovine population from the Livestock Census, conducted by the Government of Bihar in 2005.

Social Capital

Years of experience on the implementation of poverty alleviation programmes in India has shown that, besides adequate resource base and administrative initiative, the success of these programmes also depends upon the participation of the poor themselves in them, starting from the very planning phase. However, because of the extremely low level of literacy among the rural poor and the absence of any institutional arrangement, the participation of the poor in various development programmes has been very limited and, as a consequence, their impact minimal. Thus, availability of social capital in the form of wider spread of literacy, particularly among the women, and the existence of institutions that promote collective action by the poor are one of the essential requirements of successful poverty alleviation programmes. In this background, the present study attempts to judge the strength of social capital in different districts of Bihar with the help of 4 indicators— two of them relating to the literacy status (overall rural literacy rate and relative position of female literacy) and the other two capturing the spread of instruments facilitating collective action by the rural households (Women Self-Help camps and cooperative societies). Within the cooperative societies, the study has taken into account both Primary Agricultural Cooperative Societies (PACS) and Fisheries Cooperative Societies (FCS), the data on which was available for all the districts. Admittedly, there could also be other groups promoting collective action, but they could not be included in the present study in the absence of any data on them. To be specific, the following 4 variables were choosen as the indicators of social capital in various districts of the state:

(i) Rural literacy rate

(ii) Rural female literacy rate as a percentage of rural male literacy rate

(iii) Number of SHGs per 1 lakh of population

(iv) Number of PACS and FCS per 1 lakh of population

The data for overall and gender-specific literacy rates was obtained from the 2001 census. The information of SHGs was available from the National Bank for Agricultural and Rural Development (NABARD) relating to the year 2005. Finally, the Department of Cooperatives of the Government of Bihar had provided the data on PACS and FCS, again relating to the year 2005.

Preparation of Combined Indices

Since for each dimension of poverty and social assessment analysis, the study had utilized multiple indices, it was necessary to prepare a 'Combined Index' of the different districts for all the choosen dimensions— poverty, social vulnerability, livelihood potential and social capital. The adopted methodology for computing such Combined Index is described below:

Let X_{ij} = Value of district i on index j
(i = 1 to 38)
(j = 1 to n)
(For poverty n=4, for social vulnerability n = 3,
for livelihood potential n = 5, and for social capital n = 4)

$M(X_j)$ = average value of index j for 38 districts

$SD(X_j)$ = standard deviation of index j for 38 districts

Then $X'_{ij} = \dfrac{X_{ij} - M(X_j)}{SD(X_j)}$

= (Standardized value of X_{ij})

Then, Combined Index (CI) = $(X'_{i1} + \ldots\ldots..X'_{in})/n$

Essentially, the above methodology implies that the Combined Index with respect to any dimension of poverty or social situation is an average of the comprising individual indices, but the indices are added only after they have been standardized using their respective means and standard deviations.

After the computation of these Combined Indices and ranking them, the 38 districts have been classified into 5 clusters — 'much above average' (7 districts), 'above average' (8 districts), 'average' (8 districts), 'below average' (8 districts) and 'much below average' (7 districts).

II. CLUSTERING OF THE DISTRICTS

2.1 Poverty Criteria

From the district wise information on 4 different indices of poverty (Table 4), it is quite apparent that no single index is able to capture the extent of poverty across the state in a comprehensive

manner. For example, the 'percentage of population living below poverty line' is not very high in Khagaria (34.4 percent, as against the state average of 42.3 percent), but the living conditions are very poor there with respect to both possession of consumer durables and number of living rooms. Similarly, in Jamui district, the percentage of population living below poverty line is rather low (25.1 percent), but every fifth rural women there is a marginal worker, a sign of extreme poverty. It is for this reason that the Combined Index of poverty is a more reliable base for judging the overall level of poverty in a district. The ranks of the different districts based on this Combined Index of poverty are presented in the last column of Table 4. The five clusters that emerge out of these rankings are presented in Table 5.

From the map indicating the geographical location of different clusters, it is quite apparent that the western districts of Bihar are relatively more prosperous. The districts where the poverty levels are much below average or at least below average are all in the western part. The lone exception is the district of Jehanabad where because of very low per capita land endowment; work participation of females as marginal workers is very high. Among the districts in the eastern part of the state where the poverty level are relatively high, those in the north east corner are most poverty-stricker.

2.2 Social Vulnerability Criteria

The social vulnerability of a district is sought to be judged in this study in terms of the relative size its landless, scheduled caste/tribe (SC/ST) and Muslim population. The district wise information on these three indicators is presented in Table 6. That the SC households are generally landless is apparent from the fact that the percentage of workers who are agricultural labourers is generally higher than the percentage of SC/ST households. Among the Muslims, however, the phenomenon of landlessness is not that wide.

The clustering of the 38 districts along the social vulnerability criteria is presented in Table 7. Although the districts where poverty levels are very high (like in north-eastern part of the state) also suffer from high social vulnerability, one does not observe any definite pattern vis-à-vis the effect of social vulnerability on the poverty levels in other regions of Bihar. For example, Banka and Jamui are among the least socially vulnerable districts, but the poverty levels in both of them are above average.

2.3 Livelihood Potential Criteria

The extent of livelihood potential in different districts is an important consideration for designing appropriate interventions for removing poverty. The district wise data for 5 indicators of livelihood

potential is presented in Table 8. As regards land-related potential, it is interesting to note that the per household availability of cultivable land varies widely in Bihar — from 0.23 hectares in Sitamarhi to 0.86 hectare in Kaimur. These varying land endowments are, however, partially offset by relatively higher cropping intensities in many of the land-poor districts. The Combined Index for livelihood potential, however, takes into account three other indices (agricultural productivity, endowment of bovine assets and the level of urbanization) and the rankings for different districts with respect to this Index are presented on the last column of Table 8. Based on these rankings, the composition of the 5 clusters is presented in Table 9.

From the map indicating the location of the districts belonging to the 5 clusters, it is quite apparent that the districts on the south-western part of Bihar are characterized by low levels of poverty as well high levels of livelihood potential. Obviously, the utilization of livelihood potential in all these districts is very high. However, this should not lead one to conclude that the districts where the poverty levels are very high (for example, those in the north-eastern part of the state) are indeed starved of livelihood potential. Some of them enjoy at least average levels of livelihood potential and some others even above averag level. This probably indicates that, because of social vulnerability, the livelihood potential in these highly poverty-stickers districts is not utilized fully, Indeed, such under-utilization of livelihood potential is present in many of districts of Bihar like Gaya, Lakhisarai, Munger or Supaul.

2.4 Social Capital Criteria

The availability of social capital, as mentioned before, is a precondition for the success of all development programmes. Indeed, even for the normal functioning of the economy and the society, such social capital is extremely relevant. Table 10 presents the situation in different districts of Bihar vis-à-vis the four indicators of social capital, as well as their rankings with respect to a Combined Index for this important development input. Based on these rankings, Table 11 presents the composition of the 5 clusters, arranged ordinally in terms of their levels of social capital.

It is interesting to note from the map indicating the geographical locations of the different clusters, that there is a concordance between the poverty and social capital indices for clusters at the two extremes. Poverty indices are indeed much below average in those districts where social capital endowment is much above average (i.e., district in south-western part of the state); similarly, the poverty indices are much above average in those district where the social capital is at a very low level (i.e., district in north-eastern part of the state). For districts at the middle of the ordinal

rankings, the relation between poverty and social capital may not be very clear, but from the situation observed in extreme clusters, one can easily infer about the enormous role that social capital plays in the development patterns in a district.

III. CONCLUSION

The clustering of the districts, as obtained before, was done solely on the basis of their status with respect to poverty and social situation. In two cases, the clusters had included districts which were broadly contiguous viz, those for poverty and social capital indices. But in the clustering with respect to two other indices — social vulnerability and livelihood potential, no geographical pattern was observed, as broad contiguity of the districts was absent for most of the clusters. If the clusters were formed comprising only contiguous districts, they would not have been homogeneous with the respect to their poverty and social situation status. One can, however, overcome this limitation by forming larger number of clusters, so that each smaller cluster is a reasonably homogeneous comprising contiguous district. For obvious reasons, the 9 divisions in Bihar in which its 38 districts are distributed provide one such clustering. Table 12 presents the profile of these 9 divisions in terms of poverty and livelihood potential indices.

Table 12: Classification of 9 Divisions with respect to Poverty and Livelihood Potential Criteria.

Divison	Poverty Criteria	Livelihood Potential Criteria
Patna	Low	High
Magadh	Medium	Medium
Bhagalpur	High	Medium
Munger	Medium	Medium
Saran	Low	Low
Tirhut	Low	Low
Darbhanga	Medium	Low
Koshi	High	High
Purnia	High	High

Of the 9 divisions, the status with respect to poverty and livelihood potential are in agreement in 3 divisions— Patna, Magadh and Munger. In Patna, high livelihood potential is utilized to cause low poverty; in Magadh and Munger, both poverty and livelihood potential are at an average level. In the second of category of administrative divisions, one may include Saran, Tirhut and Darbhanga where livelihood potential is rather low, yet the poverty levels are low too. Obviously, these divisions are,

'performing areas' where limitations of the natural endowment have been overcome with certain development efforts. Finally, there are three divisions where the need for livelihood-related interventions are most needed— Bhagalpur, Koshi and Purnia, in each of which poverty level is very high. Interstingly, in none of these 3 divisions, the livelihood potential is low; in Koshi and Purnia, this potential is rather high and, in Bhagalpur, it is at least at the average level. One may again note here the crucial role of social capital as a development input. Except for Bhagalpur district, the social capital base of all the districts in these 3 divisions is either low or, more often, very low.

The above characterization of the different regions of Bihar vis-à-vis their poverty levels and social situation could be a useful guide for choosing appropriate livelihood-oriented poverty alleviation programme in the respective regions. However, BRILS is already engaged in such interventions in districts of the state — Nalanda, Gaya, Khagaria, Muzaffarpur, Madhubani and Purnia. One may, therefore, investigate the specific poverty and social profile of these six districts to design the livelihood-oriented interventions, suited to each districts. Towards this, Table 13 presents the cluster position of each of those 6 districts with respect to four dimensions of the present analysis — poverty, social vulnerability, livelihood potential and social capital.

Table 13 : Cluster Positions of present BRLPS Intervention Districts

	Cluster Position with respect to			
	Poverty	**Social Vulnerability**	**Livelihood Potential**	**Social Capital**
Nalanda	4	3	4	2
Gaya	3	1	2	1
Khagaria	1	4	4	4
Muzaffarpur	4	3	3	3
Madhubani	2	4	4	4
Purnia	1	1	3	5

Of the 6 districts, the poverty levels are very high in Khagaria, Madhubani and Purnia. All these districts are also characterized by very low levels of social capital. Livelihood potential is also rather limited in these three districts and, firstly, at least one of these districts (Purnia) suffers from high social vulnerability. Thus, the urgency for livelihood-oriented interventions in all these three districts is very high.

Nalanda and Gaya are two districts where poverty levels may not be high, but if one takes into account their relatively higher levels of social capital, the poverty levels there should have been even

lower. In case of Gaya, even the livelihood potential is found to be above average. Thus, these two districts seem to be rather 'failing' districts where the existing economic and social potential are not fully utilized to reach a matching level of development. In these backgrounds, both these districts are in need of an innovative intervention programme and BRLPS could possibly undertake the task.

Finally, the district of Muzaffarpur is seen to enjoy average levels of livelihood potential, social vulnerability and social capital and, yet, the present level of poverty is below the average. This obviously makes the district a performing one, which has overcome its natural and social constraints to attain a none-too-low level of development. It can therefore provide the functionaries of the BRLPS with a learning opportunity to identify the kind of social forces that promote development and low levels of poverty.

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APPENDIX (Tables)

Table 4: District wise Indices for Poverty

Division / District	Poverty Criteria									
	Rural Population below poverty (%)		Percentage of Rural hhs. with no consumer durables		Percentage of rural hhs. living in one room		Work participation rate for females as marginal workers		Rank with respect to combined Poverty Index	
									Rank	Cluster
Patna Division										
Patna	15.8	*(38)*	55.3	*(19)*	29.3	*(27)*	9.0	*(25)*	*36*	*5*
Nalanda	27.1	*(30)*	66.9	*(3)*	22.2	*(30)*	12.7	*(15)*	*25*	*4*
Rohtas	33.3	*(25)*	45.9	*(30)*	20.5	*(33)*	9.3	*(23)*	*32*	*5*
Kaimur	33.3	*(26)*	50.8	*(24)*	20.7	*(32)*	11.8	*(17)*	*29*	*4*
Bhojpur	24.0	*(36)*	49.1	*(27)*	26.0	*(29)*	7.9	*(29)*	*35*	*5*
Buxar	24.0	*(37)*	46.1	*(29)*	20.8	*(31)*	7.6	*(32)*	*37*	*5*
Magadh Division										
Gaya	38.8	*(10)*	57.4	*(14)*	18.5	*(34)*	11.7	*(19)*	*21*	*3*
Jehanabad	36.6	*(19)*	55.2	*(20)*	17.2	*(35)*	33.1	*(1)*	*4*	*1*
Arwal	36.6	*(20)*	55.2	*(21)*	17.2	*(36)*	14.1	*(10)*	*23*	*3*
Nawada	45.0	*(2)*	69.4	*(1)*	16.9	*(37)*	13.0	*(13)*	*9*	*2*
Aurangabad	40.4	*(7)*	45.9	*(31)*	16.5	*(38)*	12.3	*(16)*	*27*	*4*
Bhagalpur Division										
Bhagalpur	27.5	*(28)*	60.4	*(9)*	62.1	*(6)*	15.4	*(7)*	*10*	*2*
Banka	27.5	*(29)*	55.1	*(22)*	45.3	*(16)*	18.7	*(5)*	*15*	*2*
Munger Division										
Munger	25.1	*(32)*	62.7	*(8)*	55.3	*(11)*	9.9	*(22)*	*18*	*3*
Lakhisarai	25.1	*(33)*	67.5	*(2)*	43.0	*(18)*	10.9	*(20)*	*19*	*3*
Shekhpura	25.1	*(35)*	65.3	*(5)*	26.4	*(28)*	11.7	*(18)*	*26*	*4*
Jamui	25.1	*(34)*	63.8	*(6)*	42.5	*(20)*	20.0	*(2)*	*13*	*2*
Khagaria	34.4	*(23)*	66.4	*(4)*	73.2	*(2)*	14.1	*(9)*	*2*	*1*
Begusarai	29.9	*(27)*	49.5	*(26)*	65.2	*(4)*	7.9	*(28)*	*22*	*3*
Saran Division										
Saran	25.8	*(31)*	34.0	*(36)*	40.0	*(22)*	5.8	*(35)*	*38*	*5*
Siwan	36.9	*(18)*	30.4	*(37)*	34.9	*(24)*	7.7	*(31)*	*34*	*5*
Gopalganj	38.3	*(11)*	28.9	*(38)*	32.1	*(26)*	8.9	*(26)*	*33*	*5*
Tirhut Divison										
E Champaran	38.9	*(9)*	41.8	*(34)*	33.1	*(25)*	7.8	*(30)*	*31*	*4*
W Champaran	35.2	*(22)*	46.1	*(28)*	35.8	*(23)*	14.0	*(11)*	*24*	*4*
Muzaffarpur	33.5	*(24)*	45.8	*(32)*	47.9	*(13)*	6.7	*(33)*	*28*	*4*
Sitamarhi	38.2	*(12)*	57.1	*(15)*	49.8	*(12)*	6.5	*(34)*	*17*	*3*
Sheohar	38.2	*(13)*	58.3	*(11)*	42.7	*(19)*	5.6	*(37)*	*20*	*3*
Vaishali	39.0	*(8)*	37.7	*(35)*	47.6	*(15)*	5.8	*(36)*	*30*	*4*
DarbhangaDivision										
Darbhanga	36.5	*(21)*	55.8	*(17)*	68.6	*(3)*	9.0	*(24)*	*11*	*2*
Madhubani	44.9	*(3)*	50.5	*(25)*	40.6	*(21)*	12.8	*(14)*	*14*	*2*
Samastipur	42.3	*(5)*	43.8	*(33)*	59.9	*(9)*	8.4	*(27)*	*16*	*3*
Koshi Division										
Saharsa	37.5	*(14)*	62.8	*(7)*	60.5	*(8)*	18.5	*(6)*	*1*	*1*
Supaul	37.5	*(16)*	57.6	*(13)*	43.4	*(17)*	18.8	*(4)*	*8*	*2*
Madhepura	36.9	*(15)*	58.0	*(12)*	47.9	*(14)*	19.5	*(3)*	*7*	*1*
Purnia Divison										
Purnia	44.9	*(4)*	58.6	*(10)*	61.5	*(7)*	10.4	*(21)*	*6*	*1*
Araria	49.0	*(1)*	54.6	*(23)*	58.9	*(10)*	13.3	*(12)*	*3*	*1*
Kishanganj	36.9	*(17)*	55.6	*(18)*	78.0	*(1)*	5.1	*(38)*	*12*	*2*
Katihar	40.6	*(6)*	56.7	*(16)*	62.6	*(5)*	14.9	*(8)*	*5*	*1*
Bihar	42.3		51.3		43.9		10.8			

Note : (i) Figure is Bracket Represents the Rank of that particular district in the selected column
(ii) Group-1- Much above average, 2- Above average 3- Average 4 – Below average, 5- Much below average

Table 5 : Groupings of Districts with respect to Rankings for Poverty

Groups	Districts		
Much Above Average *(7 Districts)*	Saharsa Jehanabad Madhepura	Khagaria Katihar	Araria Purnia
Above Average *(8 Districts)*	Supaul Darbhanga Madhubani	Nawada Kishanganj Banka	Bhagalpur Jamui
Average *(8 Districts)*	Samastipur Lakhisarai Begusarai	Sitamarhi Sheohar Arwal	Munger Gaya
Below Average *(8 Districts)*	W Champaran Aurangabad Vaishali	Nalanda Muzaffarpur E Champaran	Shekhpura Kaimur
Much Below Average *(7 Districts)*	Rohtas Bhojpur Saran	Gopalganj Patna	Siwan Buxar

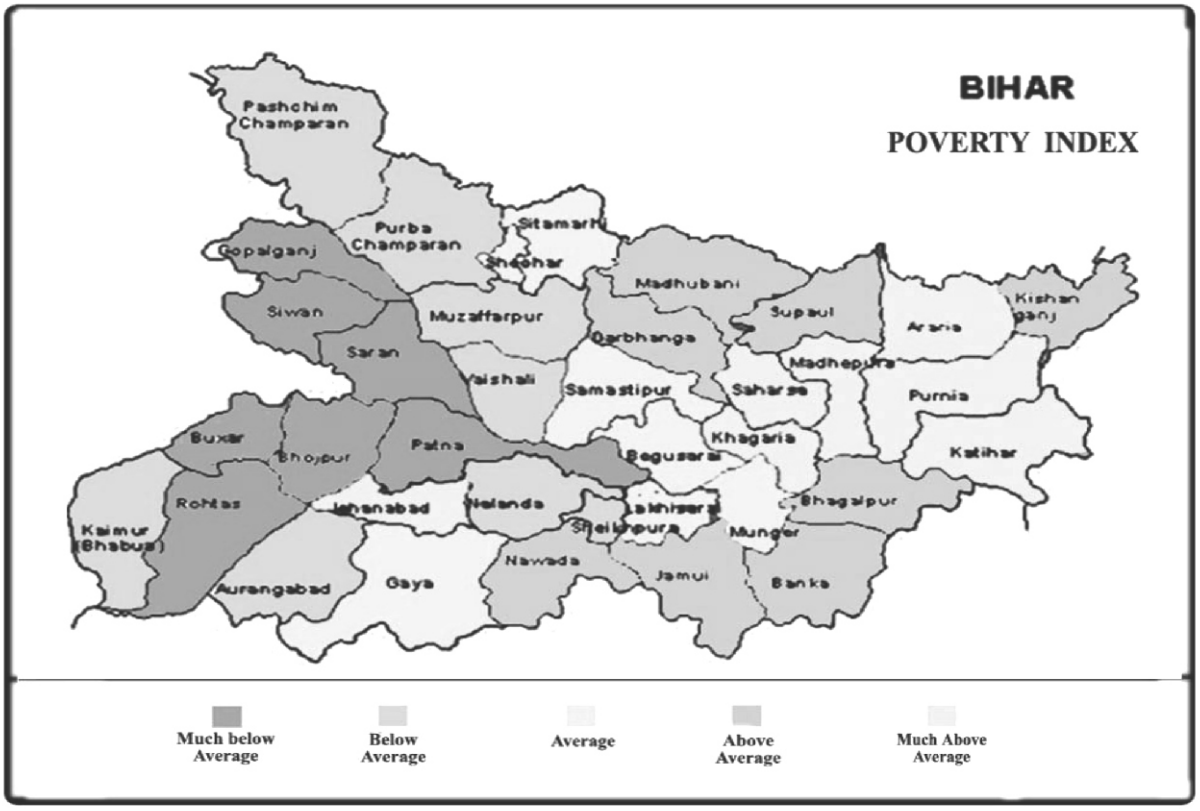

Table 6 : Districtwise Indices for Vulnerability

Division / District	Vulnerability Criteria							
	Percentage of rural workers engaged as agricultural labourers		Percentage of SC/ST among rural population		Percentage of Muslims in among rural population		Rank with respect to combined Vulnerability Index	
Patna Division							Rank	Cluster
Patna	31.1	*(22)*	19.7	*(10)*	3.57	*(38)*	*25*	*4*
Nalanda	33.0	*(19)*	21.5	*(6)*	3.94	*(37)*	*17*	*3*
Rohtas	23.7	*(35)*	20.6	*(9)*	7.90	*(28)*	*30*	*4*
Kaimur	30.9	*(24)*	25.5	*(2)*	7.90	*(29)*	*8*	*2*
Bhojpur	25.6	*(31)*	16.6	*(21)*	4.97	*(35)*	*34*	*5*
Buxar	24.8	*(32)*	15.2	*(26)*	4.91	*(36)*	*36*	*5*
Magadh Division								
Gaya	33.5	*(18)*	32.6	*(1)*	10.26	*(19)*	*4*	*1*
Jehanabad	24.4	*(33)*	19.7	*(11)*	7.27	*(33)*	*31*	*4*
Arwal	32.1	*(20)*	18.8	*(12)*	7.27	*(34)*	*23*	*3*
Nawada	27.7	*(29)*	25.3	*(3)*	10.20	*(20)*	*9*	*2*
Aurangabad	25.8	*(30)*	24.5	*(4)*	8.23	*(27)*	*14*	*2*
Bhagalpur Division								
Bhagalpur	29.9	*(26)*	13.9	*(31)*	12.33	*(17)*	*33*	*5*
Banka	28.0	*(28)*	17.3	*(16)*	12.33	*(15)*	*29*	*4*
Munger Division								
Munger	28.6	*(27)*	16.7	*(19)*	7.45	*(30)*	*32*	*5*
Lakhisarai	32.0	*(21)*	17.4	*(15)*	7.45	*(31)*	*26*	*4*
Shekhpura	31.0	*(23)*	20.7	*(8)*	7.45	*(32)*	*19*	*3*
Jamui	20.6	*(36)*	22.9	*(5)*	12.33	*(16)*	*22*	*3*
Khagaria	35.0	*(12)*	15.0	*(27)*	9.05	*(25)*	*28*	*4*
Begusarai	33.8	*(17)*	14.8	*(29)*	11.91	*(18)*	*27*	*4*
Saran Division								
Saran	18.4	*(37)*	12.4	*(35)*	9.36	*(24)*	*37*	*5*
Siwan	13.2	*(38)*	12.2	*(36)*	16.63	*(10)*	*38*	*5*
Gopalganj	23.8	*(34)*	12.9	*(34)*	16.43	*(12)*	*35*	*5*
Tirhut Divison								
E Champaran	41.7	*(8)*	13.6	*(33)*	17.84	*(9)*	*13*	*2*
W Champaran	42.9	*(7)*	16.6	*(22)*	20.11	*(6)*	*7*	*1*
Muzaffarpur	34.1	*(16)*	16.6	*(20)*	14.41	*(13)*	*20*	*3*
Sitamarhi	46.1	*(5)*	12.0	*(37)*	19.84	*(7)*	*10*	*2*
Sheohar	49.4	*(3)*	14.4	*(30)*	19.84	*(8)*	*6*	*1*
Vaishali	30.6	*(25)*	21.0	*(7)*	8.99	*(26)*	*16*	*3*
DarbhangaDivision								
Darbhanga	35.3	*(11)*	15.9	*(23)*	21.63	*(5)*	*12*	*2*
Madhubani	34.5	*(14)*	13.6	*(32)*	16.53	*(11)*	*24*	*4*
Samastipur	34.7	*(13)*	18.8	*(13)*	10.03	*(21)*	*15*	*2*
Koshi Division								
Saharsa	34.3	*(15)*	17.1	*(18)*	14.11	*(14)*	*18*	*3*
Supaul	38.0	*(10)*	15.6	*(24)*	9.81	*(22)*	*21*	*3*
Madhepura	40.4	*(9)*	18.3	*(14)*	9.81	*(23)*	*11*	*2*
Purnia Divison								
Purnia	51.7	*(1)*	17.1	*(17)*	35.91	*(4)*	*2*	*1*
Araria	47.3	*(4)*	15.3	*(25)*	40.49	*(3)*	*3*	*1*
Kishanganj	51.0	*(2)*	10.0	*(38)*	68.59	*(1)*	*1*	*1*
Katihar	44.4	*(6)*	14.8	*(28)*	42.08	*(2)*	*5*	*1*
Bihar	34.3		17.4		14.39			

Note: (i) Muslim Population for Rural Areas is for the year 1991.
(ii) Group-1- Much above average, 2- Above average 3- Average 4 – Below average, 5- Much below average

Table 7 : Groupings of Districts with respect to Rankings for Social Vulnerability

Groups	Districts		
Much Above Average *(7 Districts)*	Kishanganj Araria Sheohar	Purnia Katihar	Gaya W Champaran
Above Average *(8 Districts)*	Nawada Kaimur E Champaran	Sitamarhi Samastipur Aurangabad	Madhepura Darbhanga
Average *(8 Districts)*	Saharsa Jamui Arwal	Nalanda Muzaffarpur Shekhpura	Vaishali Supaul
Below Average *(8 Districts)*	Madhubani Khagaria Banka	Rohtas Begusarai Lakhisarai	Jehanabad Patna
Much Below Average *(7 Districts)*	Munger Gopalganj Siwan	Bhagalpur Buxar	Bhojpur Saran

Table 8 : District wise Indices for Livelihood Potentials

Division / District	Livelihood Potentials Criteria											
	Availability of land per rural hh. Hectare		Cropping Intensity		Agriculture Productivity (yield of paddy in tonne per hectare)		Bovine capital per 1000 population		Percentage of urban population		Rank with respect to combined Livelihood Potential Index	
											Rank	Cluster
Patna Division												
Patna	0.48	*(15)*	1.23	*(28)*	2.29	*(3)*	123	*(34)*	41.6	*(1)*	*3*	*1*
Nalanda	0.55	*(10)*	1.26	*(26)*	0.98	*(34)*	177	*(25)*	14.9	*(5)*	*25*	*4*
Rohtas	0.84	*(2)*	1.43	*(16)*	2.65	*(2)*	235	*(13)*	13.3	*(9)*	*2*	*1*
Kaimur	0.86	*(1)*	1.33	*(24)*	3.11	*(1)*	313	*(4)*	3.3	*(38)*	*1*	*1*
Bhojpur	0.64	*(5)*	1.23	*(29)*	2.12	*(5)*	197	*(21)*	13.9	*(7)*	*7*	*1*
Buxar	0.78	*(3)*	1.05	*(38)*	2.28	*(4)*	214	*(14)*	9.2	*(16)*	*6*	*1*
Magadh Division												
Gaya	0.44	*(20)*	1.38	*(21)*	1.53	*(12)*	264	*(6)*	13.7	*(8)*	*12*	*2*
Jehanabad	0.29	*(35)*	1.26	*(27)*	1.82	*(7)*	201	*(17)*	12.1	*(10)*	*24*	*4*
Arwal	0.29	*(36)*	1.20	*(33)*	1.70	*(10)*	153	*(29)*	12.1	*(11)*	*33*	*5*
Nawada	0.45	*(18)*	1.35	*(23)*	1.62	*(11)*	245	*(9)*	7.6	*(22)*	*17*	*3*
Aurangabad	0.74	*(4)*	1.42	*(17)*	1.81	*(8)*	288	*(5)*	8.4	*(19)*	*4*	*1*
Bhagalpur Division												
Bhagalpur	0.42	*(24)*	1.22	*(30)*	1.27	*(25)*	197	*(22)*	18.7	*(3)*	*21*	*3*
Banka	0.44	*(19)*	1.05	*(37)*	1.50	*(14)*	369	*(1)*	3.5	*(36)*	*20*	*3*
Munger Division												
Munger	0.32	*(32)*	1.44	*(15)*	1.50	*(13)*	173	*(26)*	27.9	*(2)*	*13*	*2*
Lakhisarai	0.60	*(7)*	1.15	*(34)*	1.40	*(19)*	209	*(16)*	14.7	*(6)*	*8*	*2*
Shekhpura	0.61	*(6)*	1.42	*(18)*	1.31	*(23)*	200	*(19)*	15.4	*(4)*	*11*	*2*
Jamui	0.37	*(27)*	1.09	*(36)*	1.14	*(28)*	326	*(2)*	7.4	*(23)*	*27*	*4*
Khagaria	0.38	*(26)*	1.58	*(6)*	0.97	*(35)*	201	*(18)*	5.9	*(28)*	*26*	*4*
Begusarai	0.29	*(34)*	1.49	*(13)*	1.34	*(21)*	162	*(28)*	4.6	*(32)*	*30*	*4*
Saran Division												
Saran	0.43	*(23)*	1.21	*(32)*	1.91	*(6)*	123	*(35)*	9.2	*(15)*	*28*	*4*
Siwan	0.43	*(21)*	1.47	*(14)*	1.13	*(30)*	144	*(30)*	5.5	*(30)*	*29*	*4*
Gopalganj	0.49	*(13)*	1.55	*(10)*	1.43	*(17)*	143	*(32)*	6.1	*(27)*	*23*	*3*
Tirhut Divison												
E Champaran	0.47	*(16)*	1.12	*(35)*	1.39	*(20)*	132	*(33)*	6.4	*(25)*	*34*	*5*
W Champaran	0.59	*(8)*	1.31	*(25)*	1.30	*(24)*	214	*(15)*	10.2	*(12)*	*18*	*3*
Muzaffarpur	0.34	*(29)*	1.64	*(5)*	1.05	*(32)*	190	*(24)*	9.3	*(14)*	*22*	*3*
Sitamarhi	0.23	*(38)*	1.56	*(9)*	1.23	*(26)*	144	*(31)*	5.7	*(29)*	*32*	*5*
Sheohar	0.26	*(37)*	1.65	*(4)*	0.40	*(38)*	111	*(38)*	4.1	*(34)*	*37*	*5*
Vaishali	0.32	*(31)*	1.50	*(11)*	0.64	*(36)*	120	*(36)*	6.9	*(24)*	*35*	*5*
DarbhangaDivision												
Darbhanga	0.29	*(33)*	1.22	*(31)*	1.13	*(29)*	117	*(37)*	8.1	*(21)*	*38*	*5*
Madhubani	0.35	*(28)*	1.41	*(19)*	1.01	*(33)*	198	*(20)*	3.5	*(37)*	*31*	*4*
Samastipur	0.32	*(30)*	1.37	*(22)*	0.63	*(37)*	169	*(27)*	3.7	*(35)*	*36*	*5*
Koshi Division												
Saharsa	0.43	*(22)*	1.77	*(1)*	1.22	*(27)*	256	*(7)*	8.3	*(20)*	*9*	*2*
Supaul	0.52	*(11)*	1.73	*(2)*	1.34	*(22)*	317	*(3)*	5.1	*(31)*	*5*	*1*
Madhepura	0.51	*(12)*	1.56	*(7)*	1.46	*(16)*	243	*(10)*	4.5	*(33)*	*15*	*2*
Purnia Divison												
Purnia	0.49	*(14)*	1.39	*(20)*	1.72	*(9)*	238	*(12)*	8.7	*(18)*	*16*	*3*
Araria	0.46	*(17)*	1.56	*(8)*	1.42	*(18)*	255	*(8)*	6.1	*(26)*	*14*	*2*
Kishanganj	0.57	*(9)*	1.49	*(12)*	1.50	*(15)*	241	*(11)*	10.0	*(13)*	*10*	*2*
Katihar	0.40	*(25)*	1.67	*(3)*	1.09	*(31)*	197	*(23)*	9.1	*(17)*	*19*	*3*
Bihar	0.45		1.38		1.58		196		10.5			

Note : (i) Figure in bracket represents the rank of that particular district in the selected column.
(ii) Group-1- Much above average, 2- Above average 3- Average 4 – Below average, 5- Much below average

Table 9 : Groupings of Districts with respect to Rankings for Livelihood Potential

Groups	Districts		
Much Above Average *(7Districts)*	Kaimur Aurangabad Bhojpur	Rohtas Supaul	Patna Buxar
Above Average *(8 Districts)*	Lakhisarai Shekhpura Araria	Saharsa Gaya Madhepura	Kishanganj Munger
Average *(8 Districts)*	Purnia Katihar Muzaffarpur	Nawada Banka Gopalganj	W Champaran Bhagalpur
Below Average *(8 Districts)*	Jehanabad Jamui Begusarai	Nalanda Saran Madhubani	Khagaria Siwan
Much Below Average *(7 Districts)*	Sitamarhi Vaishali Darbhanga	Arwal Samastipur	E Champaran Sheohar

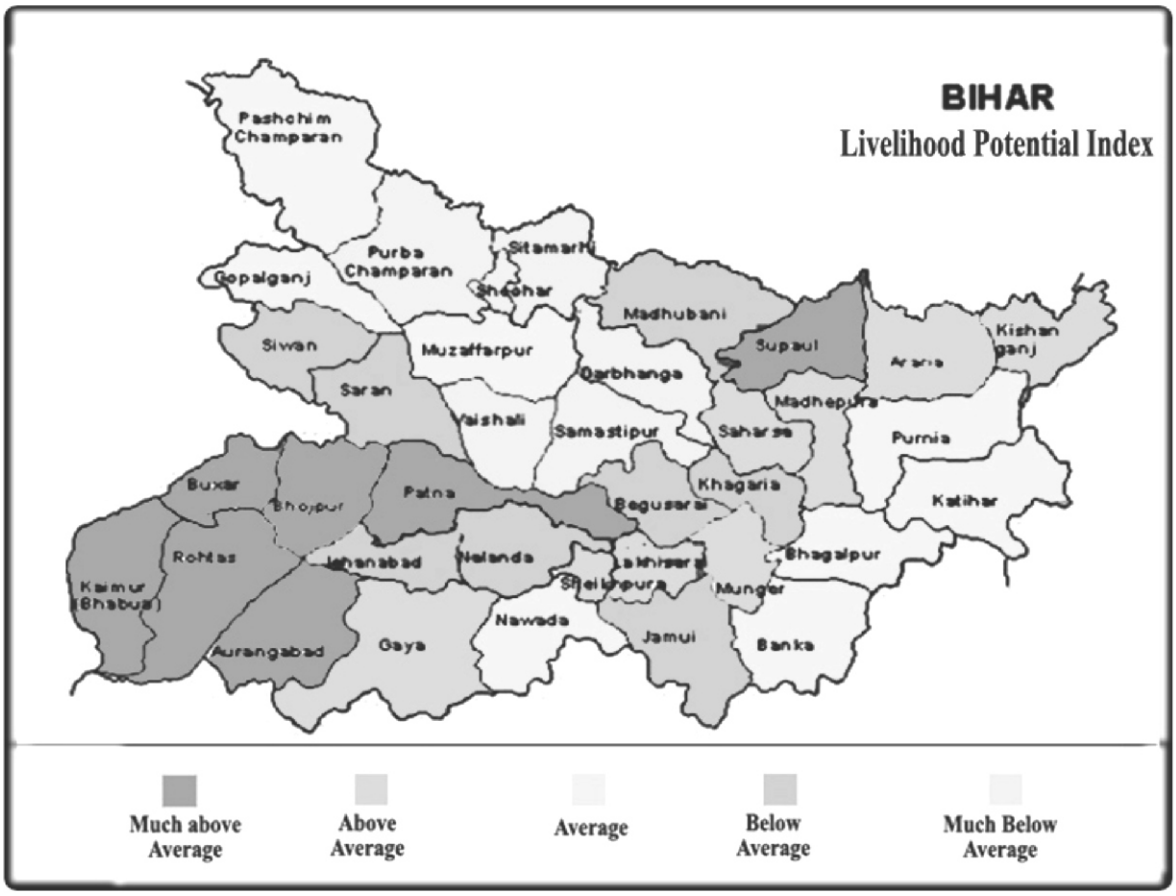

Table 10 : District wise Indices for Social Capital

Division / District	Social Capital Criteria									
	Rural literacy Rate (R)		Rural female literacy rate as a percentage of rural male literacy		Number of SHGs per 1 Lakh population		Number of PACS and FCS per 1 lakh population		Rank with respect to combined Social Capital Index	
									Rank	Cluster
Patna Division										
Patna	41.3	*(9)*	56.0	*(7)*	34	*(9)*	13	*3*	*3*	*1*
Nalanda	40.4	*(10)*	53.8	*(13))*	21	*(17)*	11	*9*	*12*	*2*
Rohtas	47.3	*(1)*	57.2	*(3)*	18	*(24)*	11	*12*	*4*	*1*
Kaimur	42.9	*(7)*	54.2	*(11)*	7	*(35)*	11	*13*	*11*	*2*
Bhojpur	45.9	*(2)*	51.9	*(20)*	9	*(31)*	12	*5*	*7*	*1*
Buxar	44.2	*(5)*	52.8	*(16)*	9	*(32)*	12	*4*	*8*	*2*
Magadh Division										
Gaya	36.7	*(16)*	52.8	*(17)*	115	*2)*	10	*17*	*5*	*1*
Jehanabad	42.9	*(6)*	56.0	*(9)*	61	*(4)*	5	*38*	*13*	*2*
Arwal	44.2	*(4)*	53.8	*(14)*	44	*(5)*	5	*35*	*14*	*2*
Nawada	35.8	*(19)*	49.9	*(27)*	25	*(14)*	10	*16*	*20*	*3*
Aurangabad	44.4	*(3)*	56.9	*(6)*	18	*(23)*	11	*11*	*6*	*1*
Bhagalpur Division										
Bhagalpur	35.3	*(21)*	57.2	*(4)*	63	*(3)*	9	*18*	*10*	*2*
Banka	33.5	*(23)*	50.1	*(26)*	28	*(13)*	8	*25*	*24*	*4*
Munger Division										
Munger	42.8	*(8)*	60.4	*(1)*	29	*(11)*	11	*7*	*2*	*1*
Lakhisarai	35.8	*(18)*	52.7	*(18)*	3	*(3)*	10	*15*	*22*	*3*
Shekhpura	36.2	*(17)*	51.1	*(22)*	7	*(36)*	16	*1*	*9*	*2*
Jamui	32.2	*(26)*	42.8	*(36)*	44	*(6)*	8	*23*	*30*	*4*
Khagaria	30.8	*(27)*	53.9	*(12)*	6	*(37)*	8	*22*	*26*	*4*
Begusarai	36.8	*(15)*	58.3	*(2)*	9	*(33)*	7	*26*	*19*	*3*
Saran Division										
Saran	40.1	*(12)*	51.6	*(21)*	28	*(12)*	8	*24*	*17*	*3*
Siwan	40.2	*(11)*	55.0	*(10)*	2	*(39)*	9	*19*	*15*	*2*
Gopalganj	37.1	*(14)*	50.4	*(24)*	11	*(29)*	11	*10*	*18*	*3*
Tirhut Divison										
E Champaran	27.8	*(32)*	45.7	*(30)*	37	*(8)*	11	*14*	*25*	*4*
W Champaran	28.2	*(31)*	44.6	*(34)*	209	*(1)*	14	*2*	*1*	*1*
Muzaffarpur	35.6	*(20)*	57.0	*(5)*	43	*(7)*	5	*36*	*21*	*3*
Sitamarhi	29.0	*(28)*	50.4	*(25)*	19	*(19)*	6	*32*	*32*	*5*
Sheohar	27.7	*(33)*	52.0	*(19)*	21	*(18)*	11	*6*	*23*	*3*
Vaishali	39.4	*(13)*	56.3	*(8)*	19	*(20)*	7	*27*	*16*	*3*
DarbhangaDivision										
Darbhanga	33.0	*(24)*	51.0	*(23)*	16	*(27)*	7	*28*	*28*	*4*
Madhubani	32.8	*(25)*	45.3	*(31)*	31	*(10)*	7	*31*	*31*	*4*
Samastipur	34.6	*(22)*	53.6	*(15)*	18	*(25)*	5	*37*	*27*	*4*
Koshi Division										
Saharsa	28.4	*(29)*	45.3	*(32)*	19	*(22)*	11	*8*	*29*	*4*
Supaul	28.2	*(30)*	37.7	*(38)*	24	*(15)*	5	*34*	*37*	*5*
Madhepura	27.0	*(34)*	43.5	*(35)*	10	*(30)*	8	*20*	*34*	*5*
Purnia Divison										
Purnia	24.5	*(36)*	45.9	*(29)*	16	*(26)*	7	*30*	*35*	*5*
Araria	25.8	*(35)*	45.1	*(33)*	9	*(34)*	6	*33*	*36*	*5*
Kishanganj	21.5	*(38)*	38.9	*(37)*	14	*(28)*	7	*29*	*38*	*5*
Katihar	24.1	*(37)*	46.7	*(28)*	21	*(16)*	8	*21*	*33*	*5*
Bihar	34.8		51.5		34					

Note : (i) Figure in bracket represents the rank of that particular district in the selected column.
(ii) Group-1- Much above average, 2- Above average 3- Average 4 – Below average, 5- Much below average

Table 11 : Groupings of Districts with respect to Rankings for Social Capital

Groups	Districts		
Much Above Average *(7 Districts)*	W Champaran Rohtas Bhojpur	Munger Gaya	Patna Aurangabad
Above Average *(8 Districts)*	Buxar Kaimur Arwal	Shekhpura Nalanda Siwan	Bhagalpur Jehanabad
Average *(8 Districts)*	Vaishali Begusarai Lakhisarai	Saran Nawada Sheohar	Gopalganj Muzaffarpur
Below Average *(8 Districts)*	Banka Samastipur Jamui	E Champaran Darbhanga Madhubani	Khagaria Saharsa
Much Below Average *(7 Districts)*	Sitamarhi Purnia Kishanganj	Katihar Araria	Madhepura Supaul

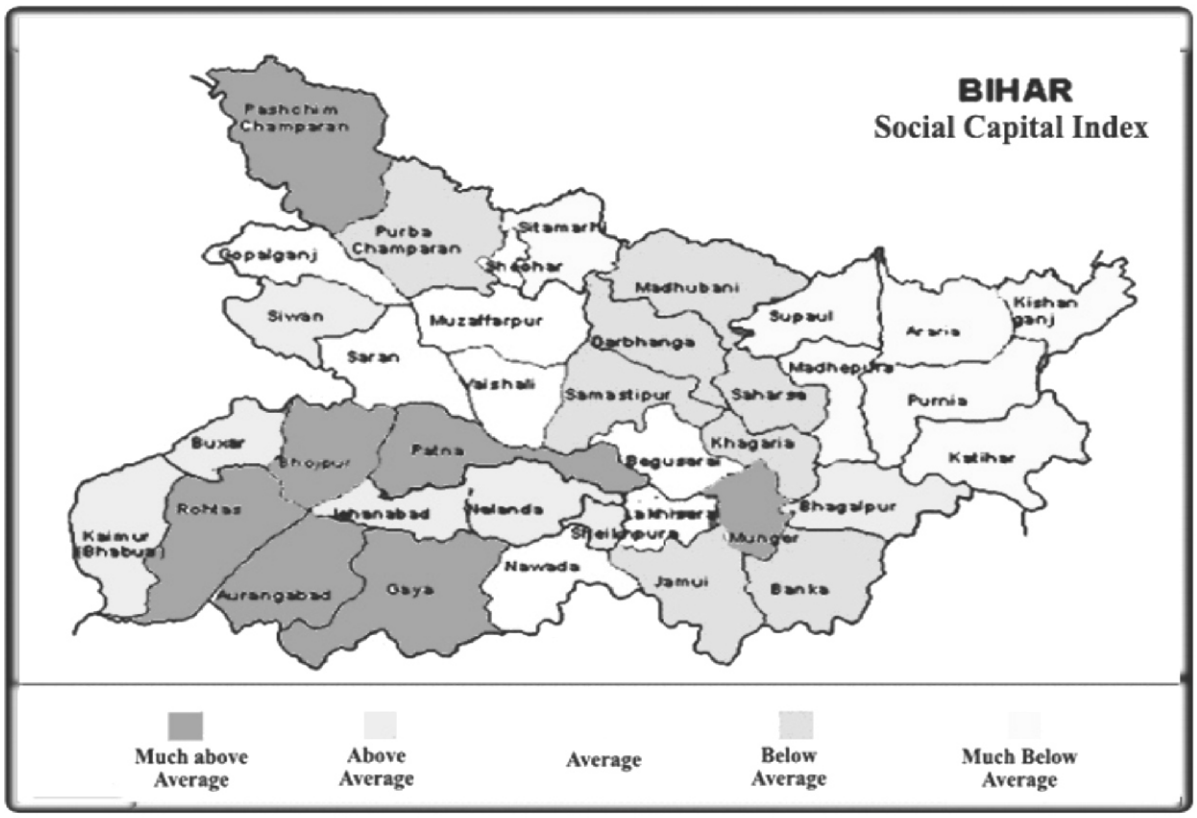

Table A1: Demographic Profile of Districts

Division / District	Total population	Rural population	Rural population (male)	Rural population (female)	Number of rural hhs.	Urban population
Patna Division						
Patna	4719	2757	1456	1301	430	1961
Nalanda	2370	2017	1052	965	329	354
Rohtas	2451	2124	1110	1014	303	327
Kaimur	1289	1247	655	592	179	42
Bhojpur	2243	1931	1010	921	289	312
Buxar	1402	1273	669	604	178	129
Magadh Division						
Gaya	3473	2997	1539	1459	453	476
Jehanabad	924	813	420	393	221	112
Arwal	590	590	306	284		0
Nawada	1810	1671	857	814	248	138
Aurangabad	2013	1843	951	892	266	170
Bhagalpur Division						
Bhagalpur	2423	1971	1049	922	346	452
Banka	1609	1552	813	739	274	56
Munger Division						
Munger	1138	820	437	383	150	318
Lakhisarai	802	684	355	329	114	118
Shekhpura	525	444	231	213	72	81
Jamui	1399	1295	674	621	221	103
Khagaria	1280	1204	638	566	220	76
Begusarai	2349	2242	1171	1070	402	107
Saran Division						
Saran	3249	2950	1495	1455	447	299
Siwan	2714	2565	1258	1307	375	150
Gopalganj	2153	2022	1008	1014	308	131
Tirhut Divison						
E Champaran	3940	3689	1942	1747	613	251
W Champaran	3043	2734	1437	1297	477	310
Muzaffarpur	3747	3398	1765	1634	605	348
Sitamarhi	2683	2529	1335	1194	524	153
Sheohar	516	495	262	232	103	21
Vaishali	2718	2532	1317	1215	395	187
DarbhangaDivision						
Darbhanga	3296	3028	1580	1449	590	267
Madhubani	3575	3451	1775	1676	648	124
Samastipur	3395	3271	1695	1576	573	124
Koshi Division						
Saharsa	1508	1383	722	661	253	125
Supaul	1733	1644	855	789	297	88
Madhepura	1527	1459	760	698	257	68
Purnia Divison						
Purnia	2544	2322	1208	1113	454	222
Araria	2159	2026	1078	969	392	132
Kishanganj	1296	1167	600	567	232	129
Katihar	2393	2174	1130	1044	420	218
Bihar	82998	74316	38595	35722	12660	8682

Note: All Figures are in ('000)

Table A2 : Profile of Districts - Poverty Related Characteristics

Division / District	Population below poverty	Rural hhld. w/t no consumer durables	Rural Hhld living in 1 room	Number of Rural Main worker: Male	Number of rural main worker female	Number of rural marginal worker male	Number of rural marginal wk. Female
Patna Division							
Patna	436	238	126	586	122	106	117
Nalanda	547	220	73	453	162	66	123
Rohtas	708	139	62	422	56	95	94
Kaimur	416	91	37	249	56	59	70
Bhojpur	464	142	75	372	54	80	73
Buxar	443	82	37	250	30	53	46
Magadh Division							
Gaya	1163	260	84	652	240	96	170
Jehanabad	298	122	38	180	60	28	130
Arwal	216			119	37	25	40
Nawada	752	172	42	363	116	55	106
Aurangabad	745	122	44	363	80	77	110
Bhagalpur Division							
Bhagalpur	542	209	215	399	83	111	142
Banka	532	151	124	318	75	90	138
Munger Division							
Munger	206	94	83	146	25	50	38
Lakhisarai	234	77	49	152	46	22	36
Shekhpura	558	47	19	99	33	14	25
Jamui	171	141	94	268	101	71	124
Khagaria	414	146	161	259	56	53	80
Begusarai	670	199	262	457	91	87	85
Saran Division							
Saran	763	152	179	512	73	119	85
Siwan	946	114	131	413	71	112	101
Gopalganj	774	89	99	372	67	79	90
Tirhut Divison							
E Champaran	1435	256	203	836	131	119	136
W Champaran	961	220	171	622	145	118	181
Muzaffarpur	1138	277	290	706	108	127	109
Sitamarhi	966	299	262	616	60	60	78
Sheohar	189	60	44	119	10	14	13
Vaishali	988	149	188	517	67	82	70
DarbhangaDivision							
Darbhanga	1104	329	405	608	97	130	131
Madhubani	1551	327	263	720	129	131	215
Samastipur	1384	251	343	703	112	94	132
Koshi Division							
Saharsa	519	159	153	307	78	52	122
Supaul	1118	171	129	384	121	50	148
Madhepura	538	149	123	350	132	46	136
Purnia Divison							
Purnia	1042	266	279	570	160	56	116
Araria	992	214	231	492	133	64	129
Kishanganj	430	129	181	296	32	25	29
Katihar	883	238	263	514	103	71	156
Bihar	31436	6499	5561	15760	3352	2784	3855

Note: All Figures are in ('000)

Table A3: Profile of Districts – Vulnerability Related Characteristics

Division / District	Rural agricultural labourers	Rural landless hhs . (estimated)	Scheduled caste population (rural)	Scheduled Tribes population (rural)	Muslim population* (rural)
Patna Division					
Patna	290	172	541	2	80
Nalanda	266	134	433	1	67
Rohtas	158	99	415	23	206
Kaimur	134	79	282	35	
Bhojpur	149	97	313	7	127
Buxar	95	59	187	6	
Magadh Division					
Gaya	389	193	974	2	237
Jehanabad	97	53	159	1	80
Arwal	71	0	111	0	
Nawada	177	88	421	2	129
Aurangabad	162	96	450	1	117
Bhagalpur Division					
Bhagalpur	220	156	220	54	347
Banka	174	119	194	75	
Munger Division					
Munger	74	62	121	16	190
Lakhisarai	82	45	113	6	
Shekhpura	54	27	92	0	
Jamui	116	68	230	67	
Khagaria	158	105	180	0	84
Begusarai	243	172	330	1	195
Saran Division					
Saran	183	134	359	6	219
Siwan	121	91	300	13	342
Gopalganj	145	99	254	6	264
Tirhut Divison					
E Champaran	510	320	496	4	512
W Champaran	457	282	410	43	422
Muzaffarpur	359	261	561	3	386
Sitamarhi	375	289	302	2	448
Sheohar	77	62	71	0	
Vaishali	225	149	529	3	180
DarbhangaDivision					
Darbhanga	341	278	483	0	496
Madhubani	412	309	470	1	451
Samastipur	362	246	611	3	259
Koshi Division					
Saharsa	192	123	232	4	325
Supaul	267	155	251	5	
Madhepura	268	142	253	9	108
Purnia Divison					
Purnia	466	290	293	104	618
Araria	387	244	281	29	611
Kishanganj	196	139	72	45	607
Katihar	376	254	185	137	696
Bihar	8831	5733	12179	717	10797

Note: All Figures are in ('000)

Table A4: Profile of Districts – Livelihood Potential Related Characteristics

Division / District	Net area cultivated (ha)	Gross area cultivated (ha)	Area under paddy (ha)	Production of paddy (mt)	Bovine population	Sheep & Goat population	No. of SHGs	No. of cooperative societies
Patna Division								
Patna	206294	253848	100766	230257	580893	51000	1607	356
Nalanda	180872	228353	99064	96889	418773	23078	506	231
Rohtas	254360	363159	195387	516983	576612	12527	453	237
Kaimur	154226	204719	109797	341697	403952	4700	87	137
Bhojpur	185364	227536	105425	223506	442362	17246	213	225
Buxar	138277	144944	67873	154414	300023	8462	131	158
Magadh Division								
Gaya	200333	277364	159125	244150	918255	119122	3978	313
Jehanabad	63650	80024	44571	80925	185702	18970	562	44
Arwal	41784	50263	31836	54058	90562	2516	260	30
Nawada	110565	149046	78394	127325	442909	47328	446	170
Aurangabad	197912	281626	173050	312702	580661	20657	359	200
Bhagalpur Division								
Bhagalpur	145667	177576	43555	55133	477854	4957	1520	187
Banka	153818	161325	100564	150537	593432	18595	446	121
Munger Division								
Munger	48029	69030	25974	38980	196988	6393	328	91
Lakhisarai	68044	78098	30314	42299	167684	7501	27	70
Shekhpura	44217	62737	29386	38431	105207	8195	35	69
Jamui	81117	88723	52784	60080	455523	50432	619	100
Khagaria	84684	133902	15032	14635	257231	4441	78	93
Begusarai	117193	174313	21832	29364	380545	3791	205	150
Saran Division								
Saran	192938	233024	69859	133513	398539	10692	908	223
Siwan	162889	238635	62040	69830	390567	12295	54	237
Gopalganj	150524	232775	29840	42543	306849	7571	235	225
Tirhut Divison								
E Champaran	288804	323302	107849	150395	518280	12759	1474	417
W Champaran	279758	366712	89790	117144	649823	21559	6368	381
Muzaffarpur	207145	339364	116374	121729	711299	12261	1608	177
Sitamarhi	121048	188399	80400	99185	386399	12566	511	154
Sheohar	26483	43567	19587	7795	57201	1425	108	54
Vaishali	126660	190331	48738	31081	326149	2145	504	179
DarbhangaDivision								
Darbhanga	172716	209949	70987	80021	386358	6623	524	213
Madhubani	225113	317083	135156	136088	706884	12010	1105	258
Samastipur	184718	252196	50432	31522	575162	2859	606	157
Koshi Division								
Saharsa	109633	194022	66477	81344	385892	6291	281	146
Supaul	155251	268820	89672	120294	549561	7503	422	75
Madhepura	131531	205481	58335	85354	370429	9219	152	118
Purnia Divison								
Purnia	221166	307003	81449	139874	605978	26735	417	156
Araria	180983	282645	83394	118046	551402	12962	193	129
Kishanganj	131105	195648	86029	128719	312724	4320	181	81
Katihar	167217	278835	76062	82863	471236	15293	504	164
Bihar	5712088	7882377	2907199	4589705	16235900	626999	28015	6526

Notes

Notes

The Asian Development Research Institute (ADRI) Society was established and registered by a group of social scientists in 1991. The motivation for starting yet another Institute in Patna was not merely to expand social science research, but to lend it a distinct development orientation and deliver all research output to its potential users in a demystified form. In this research perspective, the broad objectives of ADRI Society are:

- to undertake academic research of direct relevance to development efforts made by an individual or a group or the community itself;
- to broaden the database of research as also of its end use by involving as many classes of persons and institutions as possible;
- to offer research results in a more innovative, demystified and useworthy form; and finally
- to restore man to his central position in social research in totality and with full dignity.