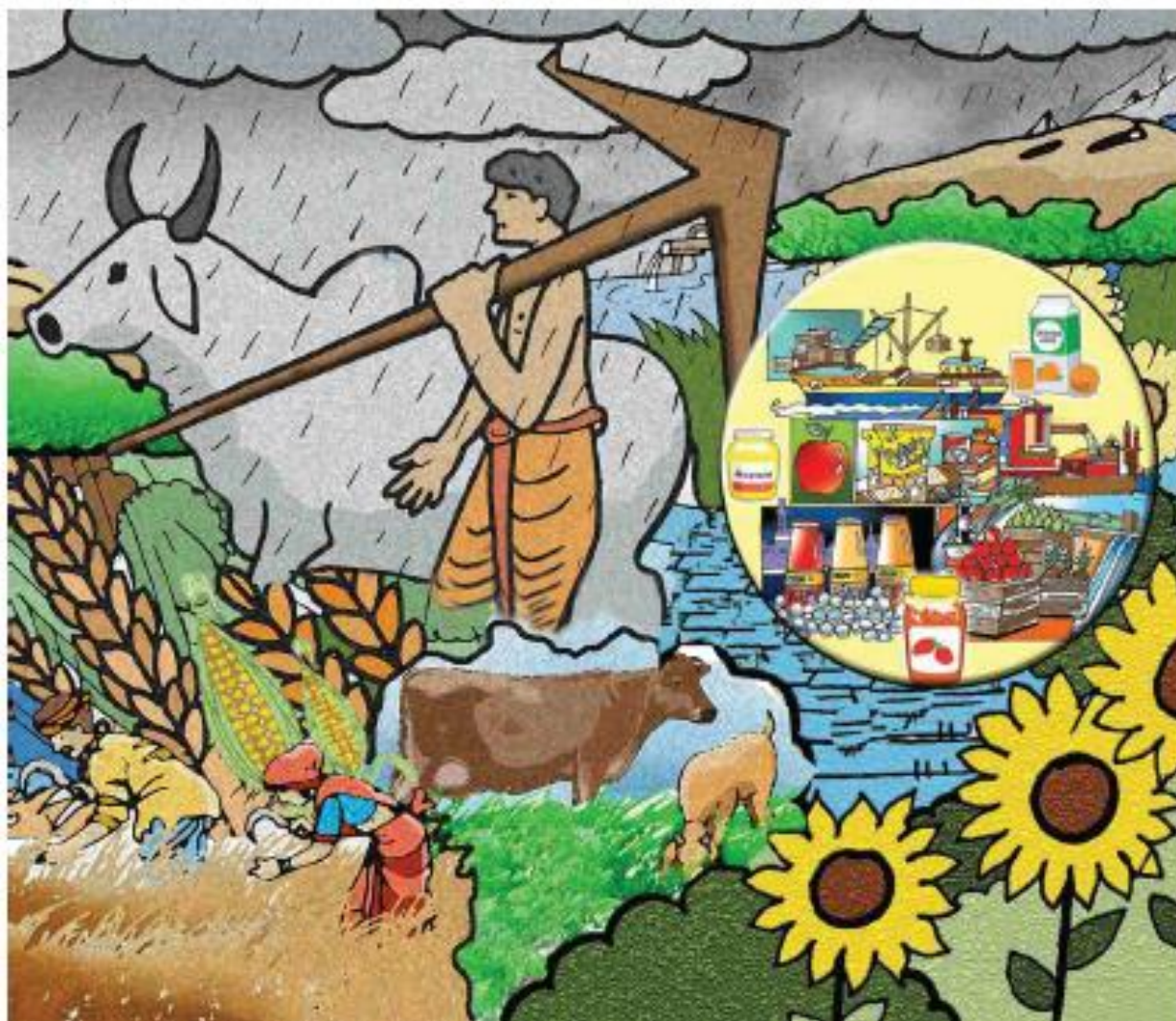


ICAR-ICRISAT Collaborative Project
Tracking Change in Rural Poverty in Household and Village
Economies in Eastern India
Dubaliya: A Village Profile of Ranchi District, Jharkhand
2013



Dubaliya

(Jharkhand)

—A Village Profile

Anjani Kumar
Ramesh Chand
K M Singh
M S Meena
Sant Kumar Rai
Usha Rani Ahuja
Rajni Jain
Md. Ejaz Anwer



**National Centre for Agricultural Economics and Policy Research,
New Delhi – 110012**

**ICAR Research Complex for Eastern Region
Patna – 800014, Bihar**



**International Crop Research Institute for the Semi – Arid Tropics
(ICRISAT), Patancheru-502 324,
Andhra Pradesh**

Dubaliya (Jharkhand) — A Village Profile

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Foreword

The eastern region of India continues to have high concentration of poverty. Reducing poverty in this region has been a major challenge and therefore, Bill and Melinda Gates Foundation deserves high appreciation for initiating a study on understanding the ways of reducing poverty in this region. NCAP is happy to be a partner in this significant study which is a part of a mega project on “Tracking Change in Rural Poverty in Household and Village Economies in South Asia” being undertaken in collaboration with International Crops Research Institute For Semi-Arid Tropics (ICRISAT), Hyderabad, with International Rice Research Institute (IRRI), Manila, Philippines. The project aims at understanding the dynamic process for reducing poverty in the poverty-laden agro-ecologies of south Asia by tracking the household and village economies continuously.

NCAP is focusing on the three states, namely Bihar, Jharkhand and Orissa, in eastern India with the over-all objective of evolving appropriate and effective strategies for accelerated poverty reduction in the study area. For implementation of the project, 12 villages have been selected from these three states and a profile of each village has been prepared to highlight the prevailing socio-economic scenario of that village. The present profile of village Dubaliya, of Jharkhand would significantly contribute to our understanding of socio-economic and cultural setting of the region.

I do acknowledge the funding support of Bill and Melinda Gates Foundation to this project. I compliment the project team for bringing out this publication. The information provided in the village profile will be helpful to state as well as central departments of rural development.

Ramesh Chand
Director
NCAP, New Delhi

Acknowledgement

The village profile is the basic output of the ICAR-ICRISAT collaborative project, “Tracking Change in Rural Poverty in Household and Village Economies in South Asia” and in bringing out this village profile, we were benefitted by the cooperation and support of several people. Foremost among them being Prof. Ramesh Chand, Director, National Centre for Agricultural Economics and Policy Research, New Delhi, and Dr. M.C.S. Bantilan, Global Theme Leader and Project Director, VDSA, International Crop Research Institute for the Semi-Arid Tropics, Hyderabad. We are grateful to them for their encouragement and support.

Thanks are also due to Dr. B.P. Bhatta, Director, ICAR-Research Complex for Eastern Region, Patna and the Research team at ICAR-RCER at Patna for their help in the study. Mrs. Neha Atri and Ms. Susmita Panda and Naveen Kumar, Field Investigators provided excellent support in conducting Participatory Rural Appraisals. They deserve our sincere thanks for their diligence. We are also grateful to Mr. Shivjee and Ms. Chitra Yadav for their analytical and secretarial support. We thank all those with whom we interacted during field surveys, in particular farmers, workers, village leaders, traders, extension functionaries, etc. We are grateful to Bill and Melinda Gates Foundation for their funding support to this project. The views expressed in this publication are those of the authors and may not necessarily present the views of their respective organizations.

Authors

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An Overview of the Dubaliya Village

Dubaliya village is located in Kanke block of Ranchi district. The village is about 9 km from Kanke and 14 km from the district and state headquarters, Ranchi. Dubaliya village was established in about 1800 AD. Earlier, there used to be a dense forest in the area. After 1950, the livelihood situation and other facets have changed substantially. The village is well connected by a *pucca* road to the state capital. The educational infrastructure has also been created during 1952, whereas now this village is equipped with many schemes like Community Development Scheme; MNREGA, Indira *Awas Yojna*, Ration Card Distribution Scheme and Public Distribution Scheme. There are also many socio-economic and developmental organisations like *Aanganwadi Kendra*, Post Office, Middle School and Health Centre which are working to improve the status among the villagers.

Paddy is the main crop which is cultivated in the village. The village has less irrigated land and the farmers do irrigation through wells and ponds. About 5 per cent of the operated area is under tenant cultivation, but as usual the tenancy is more prevalent among landless households. Majority of the households are engaged in agriculture, though some of the households are also engaged in non-farm activities.

Dubaliya is less diversified village in towards animal husbandry or live stock. Number of livestock decreased over the last several years. This is because of the non-availability of fodder and man power. Villagers are not growing fodder for the last many years due to impact of the severe drought. The villager seems more concern for education to their children. They prefer to send their children to schools rather than to fields.

There is a Primary Healthcare Centre in the Dubaliya village. There is only one doctor, visits also the PHC and who diagnose the patients for 2-3 hours regularly. For such a bigger village, the present doctor-patient ratio in the PHC is very much less. Due to sloppiness from the doctors, fair treatment to the patients is not possible. Therefore, the villagers are willing to go to Kanke or Ranchi for their medical needs or any major treatment. The veterinary hospital for livestock is not available in the village. Thus, for the treatment of livestock, they have to go to the nearby village *Chandwe* which is about 2 km away from the village Dubaliya.

On the social front, there is high addiction to alcohol and smoking in the village, as the villagers count the reason of tiredness and availability of alcohol at the cheaper rates. Even on some cultural occasions, the villagers collectively take the local beer '*Handiya*'.

The village is dominated by Oraon tribes and headed by male counterpart. The village registered relatively better literacy rate as compared to other villages of the state i.e., around 60 per cent. The incidence of migration in the village is meagre i.e., 2.62 per cent which is prevalent only in small and medium farmers. On an average 40 per cent of the total migration is attributed to seek education and jobs. This shows that people have better opportunities within the village for their livelihoods.

The villagers fulfil their needs through *Haats* or unorganised markets which are organised in the village, twice a week on Tuesdays and Fridays. The village is culturally very active as they celebrate all the festivals collectively with harmony at a common place and follow all the rituals.

1. Introduction

A research project entitled “Tracking Change in Rural Poverty in Household and Village Economies in Eastern India” is being implemented by National Centre for Agricultural Economics and Policy Research (NCAP), New Delhi and International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad. The project is sponsored by Bill and Melinda Gates Foundation aims at understanding the dynamic process for reducing poverty in the poverty-laden agro-ecologies of Eastern India by tracking the household and village economies continuously.

The Eastern region is one of the most poverty-laden regions in India. Reducing poverty in Eastern India has been a big challenge before the policy makers and the successful implementation of this project is expected to contribute to our understanding of the complex poverty dynamism in the region. The NCAP will focus on three states of Eastern India, namely Bihar, Jharkhand and Orissa.

The overall objective of the Project is to help evolve appropriate and effective strategies for accelerated reduction of poverty in Eastern India. Specific objectives of the Project are:

- To enhance the availability of reliable household, individual and field-specific, high frequency, time series data in selected villages and to address the dynamics of economic, social and institutional development at meso-level (e.g., district level), and
- To nurture policy analysis and strengthen capacity building for poverty reduction in Eastern Region of India.

Collection of longitudinal data on household, individual and field levels in selected villages is one of the major activities. Twelve villages have been selected for continuously tracking the changes in rural economies under the Project. The Dubaliya village of Ranchi district in Jharkhand is one of the selected villages. Before selection of sample households for continuous monitoring, the village census has been conducted in each selected village to understand the general and socio-economic profile of the village. This village profile is based on the village census carried out and qualitative information gathered by the project team.



Figure 1: Farmer with Horticulture Field in the Village Dubaliya

2. The District Ranchi

2.1. History

The history of the Jharkhand started after the bifurcation of the parent state of Bihar on Nov 15, 2000, the birth anniversary of Bhagwan Birsa Munda. The most natural resources abundant southern districts of old Bihar was given a separate entity. It has been associated with the newly created state of Jharkhand. The literal meaning of Jharkhand is 'the territory of forests'. Being rich in minerals, the state is one of the most industrialized states of the country.

In the earlier period, the district of Ranchi was known as Lohardaga. It was the name of a type of bird seen in the local mountain temple. Ranchi district was formerly part of old Lohardaga district of the British India. In the year 1831-32, a part of old Lohardaga district was carved out and given the name of the Non-regulation South-West Frontier. In 1899, the name of the district was changed to Ranchi district. Ranchi was the name of a small tribal village which has since been assimilated into the city of Ranchi.

The state Jharkhand was covered with the hills and forests. It is inaccessible to a large segment of the people. The tribes of this state are living within the state for thousands of years who have not much changed in their lives and cultures, barring the last few decades. There are many places within the state, especially in the district of Hazaribagh, Koderma and Giridih, where rock paintings can be found in the cave painted by the earlier tribal people. The painting shows their lives and cultures of tribal people of since ancient times. Many scholars now believe that the language used by tribes within the state of Jharkhand is identical to which was used by the Harappan Civilization. This has led to a great interest in the deciphering of Harappan inscriptions.

For a greater part of the Vedic age, Jharkhand remained masked. During the age of *Mahajanpadas* (around 500 BC), India emerged with 16 large states that controlled the entire Indian subcontinent. The region around Jharkhand was extremely rich in its mineral resources, including iron. The *Janpad* that controlled this region, eventually, Magadha controlled most of the country.

Ranchi is the administrative headquarter of Ranchi district as well as capital of the State of Jharkhand lies in the southern part of Jharkhand state. The district is bounded on the north by Hazaribagh district, on the south by West Singhbhum, on the west by Gumla and Lohardaga district and on the east by East Singhbhum and Purulia district of West Bengal. It is connected through National Highway NH-33 from the district headquarters of the state. It is also connected through Gumla and Rourkela by NH-23.

The district is divided into two subdivisions namely Ranchi Sadar and Bundu. It has 21 administrative blocks. The district comprises of 319 *Panchayats* and 2145 villages. The population density is 557 people per sq. km. As per Census 2011, Ranchi has total population of 2912022 of which 1493376 are males and remaining 1418646 are females.



Figure 2: Road Map to Ranchi District

2.2. Natural Division

Ranchi is located between $22^{\circ} 45'$ - $23^{\circ} 45'$ North latitude to $84^{\circ} 45'$ - $84^{\circ} 50'$ East longitude. It is located on the southern part of the Chota Nagpur plateau, which forms the eastern edge of the Deccan plateau. Ranchi is referred to as the City of Waterfalls, due to the presence of a number of large and small falls of around the close vicinity to the city. The most popular ones are Dasham, Hundru, Jonha, Hirni and Panchghat Falls. The district has a total area of 7698 sq. km. Its average elevation is 651 m above sea level. The Subarnarekha River and its tributaries constitute the local river system. Dams in Kanke, Rukka and Hatia have been built over these channels to cater to the water requirements of majority of the population. Ranchi has a hilly topography and its combination with dense tropical forests ensures that it enjoy a comparatively moderate climate as compared to the other states of the country.

2.3. Demographic Features

As per census 2011, population of Ranchi district is 2,914,253 and it comprises the 51.3% males and 48.7% females. Ranchi is the third-largest city in Jharkhand after Jamshedpur and Dhanbad and the second most populous district of Jharkhand after Dhanbad. The District Ranchi has an average literacy rate of about 88 per cent, which is higher than the national average (74.04%).

2.4. Special Characteristics

Ranchi is the major healthcare centre for the people of Jharkhand and nearby states. Rajendra Institute of Medical Sciences (RIMS) is one of the biggest and oldest hospitals of Ranchi. It has also several private hospitals. Government Hospitals like the Central Institute of Psychiatry (CIP) and Ranchi Institute of Neuropsychiatry and Allied Sciences (RINPAS) are famous throughout the country for Psychiatric treatment.

Ranchi is well connected with metro and major cities of India via road, rail and air routes. District Ranchi is one of the most commercial stations in South Eastern Railways. Apart from it, there are few more stations in city called Hatia Station, Tatisilwai Station and Namkom Station.

Birsa Munda Airport (IXR) of Ranchi has direct flights from Ranchi, Delhi, Mumbai, Bangalore, Pune, Chennai, Jammu, Goa and Kolkata. An international terminal with some ultra-modern facilities is ready for China, Germany and Singapore. Recently, the annual Haj pilgrimage flights to Saudi Arabia have also started.

2.5. Climate and Rainfall

Ranchi has a humid subtropical climate. However, due to dense forests, it is known for its pleasant climate, because of this, Ranchi was once the summer capital of the undivided state of Bihar. Temperature ranges from maximum 42 to 20 °C during summer and from 25 to 0 °C during winter. The annual rainfall is about 1430 mm (56.34 inches). From the month of June to September, the rainfall is about 1,100 mm.

2.6. Language

The major languages spoken by the people of Ranchi district like Hindi, Oraon, Nagpuri, Kurmali and Mundari. These languages in Jharkhand are easy to master and convenient to speak with absolute fluency. In recent years, there is awareness of the continued expansion of modern education; English is widely spoken by the urban population of Ranchi.

2.7. Biodiversity

Tribal population dominates the district. The tribal people are solely dependent on forest for firewood, fodder, food and timber. The vast lists of plant species found in Jharkhand state is diminishing at a fast rate due to deforestation. Over grazing by livestock and loss of wetland due to siltation and exploitation of forest is putting pressure on plant biodiversity.

3. The Village Dubaliya

3.1. History

The villagers narrate the story of Dubaliya. The word ‘Dubaliya’ stands for two streets, i.e., *do galiya* in the village. The existence of Dubaliya village can be found from 18th century. Prior to 1769 AD, the area was covered by highly dense forest with full of wild animals. After 1880, the area was gradually deforested and converted into the fertile land. During the British rule, the *Zamindari* System was widespread and practiced in the village. Villagers were used to do work as a tenant for their subsistence under the Zamindars (landlords).

With the passage of time, many tribal families and a *Sahukaar* (businessman) family settled in the village. He started to employ the tribal people as labourers and credited the money with the higher interest rates. In case of non-repayment, he started to capture the land of the villagers. At last, if the villager fails to repay their debt within the stipulated time-period, *Sahukaar* (Moneylenders) captured the whole land of the debtors/villagers.

The land was the only the means of livelihood in the village. Hence, villagers united and threw the *Sahukaar* from the village. Ultimately, *Sahukaar* left the village. Again in 1950-51, the government distributed the whole land amongst the villagers. The social map (Fig. 2) shows the picture of social, economic, cultural and other aspects of the villagers.

3.2. Location

The village Dubaliya, 23o27.811’ N and 85o23.151’ E, falls under Kanke block of Ranchi district. It is well connected by road. The village is about 9 km from Kanke (north east) and about 14 km from Ranchi district towards east.

The village is surrounded by four villages namely Pataratu on its south, while, on the west by Banhara, on the east by Purnadih and on the north by Siddhi. The map indicates that the village is surrounded by up-land. The villagers are well connected to the markets due to proximity of district headquarter.

3.3. Road Connectivity

The village has fairly good road connectivity. It is well linked to the block as well as to the district. The good condition of roads provide opportunities to the villagers to visit places like Ranchi to fulfill their needs. Because of the good roads connectivity, the people from this village also use their own vehicles to go to places.

3.4. Major Past Events

A chronological list of major past events presented in Box 1, indicates the general development pathways of Dubaliya village.

Box 1: Important Past Events in Dubaliya Village

Event	Year
First cycle in village	1950
Primary school started	1952
Community development programme	1952
First well dug	1955
Drought	1966
Post office established	1975
Primary health centre set up	1980
First Motor cycle purchased	1985
First Aanganwadi set up	2000
Indira Awas Yojna started	2000
Public distribution system introduced	2000
Community centre established	2000
First tractor purchased	2001
Middle school started	2006
MNREGA scheme started	2006
Electric supply started in the village	2007
Construction of check dam started	2009
Ration card distribution scheme	2009
Embroidery centre started	2010
Drought year	2010

3.5. Demographic Structure

In the year 2010, total number of households in the village was 211. The village comprises of 573 total persons, consisting of 307 males and 266 females. The village is dominated by landless households, which are 67 in the number followed by large (49), medium (48) and small (47) category, which are almost equal to the number. The average family size of the village is around 3.

Average size of the family in Dubaliya is low (2.7), which varied from 1.8 in medium categories of households to 3.3 in the large categories households. There is no explicit relationship between family size and the land holding.

The overall sex ratio in the village is 866 which is quite adverse to female and this calls for corrective measures. In Dubaliya, 90.2 percent families are headed by males who are more prominent among the large farmers (96.2%) (Table 1).

Table 1: General Characteristics of Households in Dubaliya Village

Particulars	Landless	Small	Medium	Large	All
Number of Households	67	47	49	48	211
Population					
All	180	144	89	160	573
Male	94	78	45	90	307
Female	86	66	44	70	266
Literacy rate (%)					
All	54.78	46.97	68.67	72.11	59.92
Male	60.98	59.72	80.95	81.25	69.57
Female	48	31.67	56.1	61.19	48.97

Particulars	Landless	Small	Medium	Large	All
Age (Years)	24.5	27.1	28.5	26.5	26.3
Education (Years)	3.1	3.2	4.9	5.1	4.0
Family size (no.)	2.7	3.1	1.8	3.3	2.7
% headed by male	87.8	93.1	81.3	96.2	90.2
Female sex ratio per 1000 male	915	846	978	778	866

3.6. Status of Education

The literacy rate of the village is about 60 per cent and it was higher (69.6 per cent) for males than females (49 per cent). Farm-size-wise analysis of literacy has revealed that farm households with larger land base are more literate (72.1 per cent) than households with a low land base. Similarly, the female literacy rate is more evident in the large farmers. As a result, the literacy rate is quite high in large farmers' households and comparatively low in families of small and landless households (Table 2).

The educational level of the village seems relatively better. A primary school was established in Dubaliya in 1952 which is still in a good condition. The middle school has been established in 2006. There is no high school in the village and the children who desire for higher education had to go to either Ranchi or Kanke.

Table 2: Literacy Rate across Different Categories of Households in Dubaliya Village

Particulars	Households				
	Landless	Small	Medium	Large	All
Literacy rate (%)					
All	54.8	47.0	68.7	72.1	59.9
Male	61.0	59.7	81.0	81.3	69.6
Female	48.0	31.7	56.1	61.2	49.0

3.7. Social Structure

The social structure of the village Dubaliya is diverse to be less. There seems disparity between the male and female. The females are given equal importance, even some of the households in the village are headed by females. In the village Dubaliya, some women are politically and socially active and they also participate in local elections.

Once an incident happened in the village, the women of the village collectively dragged back a Herbal company trying to establish at the place of their worship *Jatra Sthal*. This incidence shows the involvement of the females in social activities. Despite their active participation and involvement, there is a difference in wages between male and female.

The family size in Dubaliya is very low. This is because of, non prevalence of the joint-family system in the village. In Dubaliya, the majority of the population directly or indirectly depends on the agriculture and its allied activities. The villagers mutually help each other in agriculture and allied activities. The women of this village act as an unsung hero, because they take care of the household's activities besides agriculture and allied activities.

3.8. Social and Resource Map

Figure 2 shows the household pattern according to the caste and community. The village is divided into two parts: *Badi Dubaliya* and *Choti Dubaliya*, which are divided by a *pucca* road. These are further divided in *mohallas*. Each *mohalla* consists of about 10-50 households or more.

Based on the major characteristics, the *mohalla* is re-named. For example, the *neeche mohalla* is geographically down; *kathal kocha mohalla* had lotted of jackfruit trees. The map also indicates the resources available in the village, like personal wells (there are about 250 in the village).

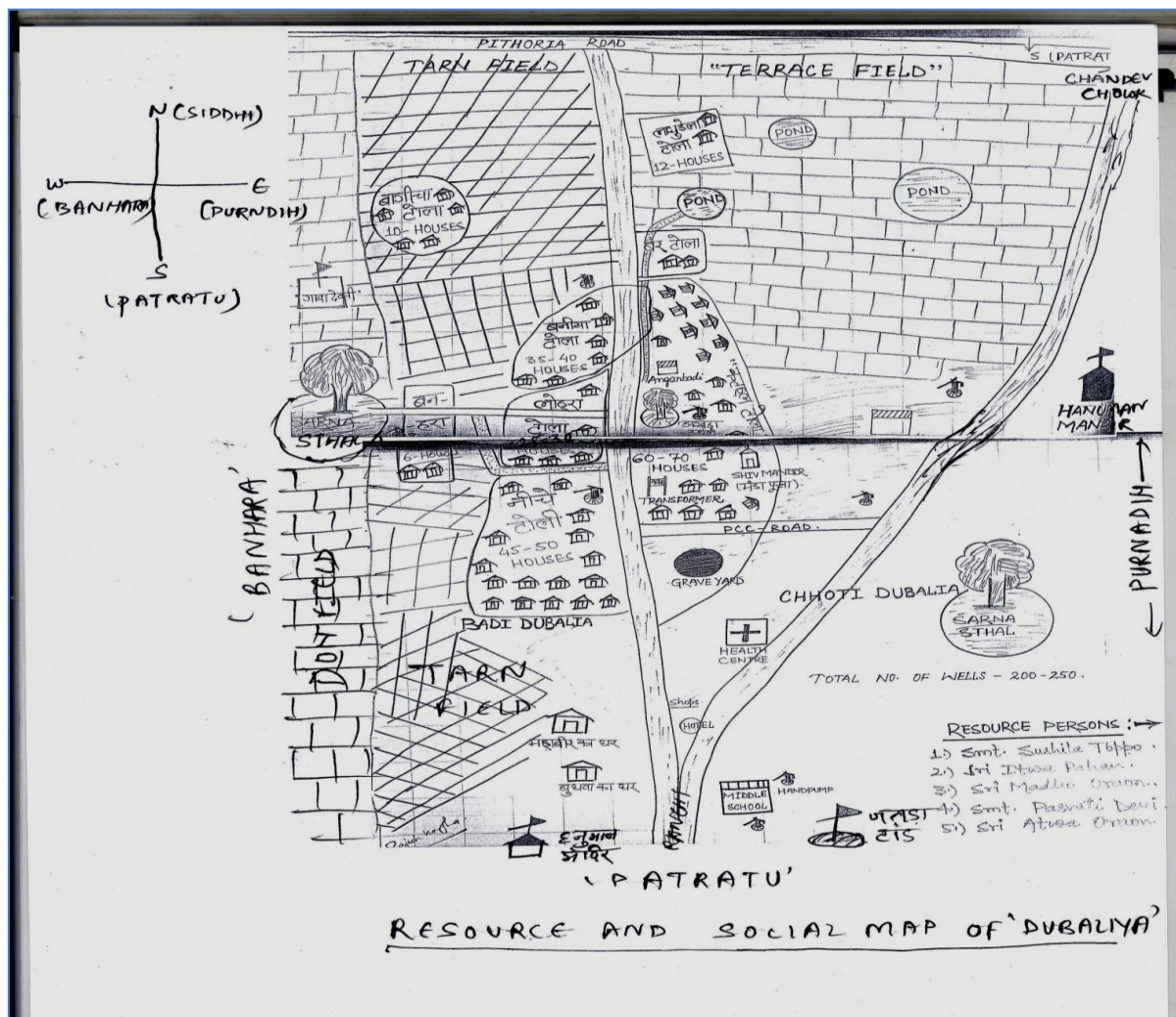


Figure 3: Social and Resource Map of Dubaliya Village

3.9. Community and Caste Structure

Dubaliya is dominated by the Oraon tribe. Lohra and Karmali are tribes residing in the village. Schedule tribes account for 99.5 per cent of the village population and the remaining few households to OBCs. The households of this tribe are headed by male counterparts. In the village, the castes are distinguished on the basis of the profession, which their ancestors adopted. The households in Dubaliya fall only under Hindu religion (100%)(Table 3).

Table 3: Distribution of Households by Community in Dubaliya Village (in per cent)

Particulars	Households				
	Landless	Small	Medium	Large	All
Hindu	100.0	100.0	100.0	100.0	100.0
Muslim	0.0	0.0	0.0	0.0	0.0
Christian	0.0	0.0	0.0	0.0	0.0

There is no single household of Forward Caste (FC) and scheduled caste (SC) in the village (Table 4).

Table 4: Distribution of Households by Caste Group in Dubaliya Village (in per cent)

Particulars	Households				
	Landless	Small	Medium	Large	All
ST	98.5	100.0	100.0	100.0	99.5
OBC	1.5	0.0	0.0	0.0	0.5

3.10. Culture

Being a bountiful natural resource dominated village; nature has been given vital importance in every sphere of life and culture. *Sarhul*, *Karma Puja*, *Mukka Sendra* and *Jitia Puja* are the major festivals of this village. Out of these, *Sarhul* is the most important festival of all the tribes in the village as well as Jharkhand. The word '*Sarhul*' means *Sal* tree blossom and worship of these tree parts associated with goddesses. The tribal communities of the village worship the tree of *Sal* to seek the blessings of their spirits. On the occasion of *Sarhul* festival, people dance with unrestricted drinking of *Handiya* (a local beer made of rice), and branches of this holy tree are ceremonially planted in the courtyards. Indeed, *Handiya* beer is culturally consumed by both men and women on social occasions like marriage and other festivals. The village had a common worship place which they called as *Jatra Tand*.

The folk harvesting festival (when new crops are harvested) called *Poush Mela* or *Tusu Mela* is celebrated, with brightly coloured and excellently decorated symbolic artefacts of folk deity, during the Makar Sankranti. *Mukka Sendra* is different kinds of the festival which is celebrated once in every twelve years by the women of *Oraon* tribe.

In tribes, great importance is given to the nature, goddesses, colours and music. The major musical instruments which the tribal people of Dubaliya village use in the festivals are *Bansuri*, *Arbansi*, *Sahnai*, *Madanvari*, *Singa*, *Sankh Mandar*, *Dhol*, *Dhak*, *Dhamsa*, *Nagara*, *Damama*, *Karha*, *Tasa*, *Jurinagra*, *Visamdhandki*, *Thapchanchu*, *Kartal*, *Jhanjh*, *Thala*, *Manjhira* and *Ghanta*.

There are many foods and dishes of the village are parts of the traditional cuisine. These include *Dudhauri*, *Dhuska*, *Pittha*, *Rotis* and *Saag* (leaves of the different shrubs and small plants). *Sattu* is major part of cuisine. Tribals also use the different types of flowers i.e. drum-stick, august and *Jhirool* as vegetables.

3.11. Migration

People generally opt to migrate from their place of living to other places when employment opportunities are not locally available. The incidence of migration is almost meagre in Dubaliya village (2.6%). The migration is mostly prevalent in medium-farm-size- households followed by small farm-size households. It is about 15 per cent on medium farmers and 1.4 per cent on small farmers' category (Table 5). However, the incidence of migration is almost nil in landless-farm-size households.

On an average, about 40 per cent people migrate for their education and salaried jobs, which are from small and medium farmers' households. Purpose-wise analysis has also revealed that, there is no migration for daily wage employment. Only 20 per cent of people of the village migrate for other purposes. This shows that people have either better opportunities within the village for their livelihoods (Table 5), or they have less access or exposure to better avenues of remunerative employment.

Table 5: Incidence of Migration in Dubaliya Village (%)

Particulars	Households				
	Landless	Small	Medium	Large	All
Out-migration	0.0	1.4	14.8	0.0	2.6
Purpose of leaving outside the village					
Education	0.0	50.0	38.5	0.0	40.0
Salaried job	0.0	50.0	38.5	0.0	40.0
Daily wage employment	0.0	0.0	0.0	0.0	0.0
Own business	0.0	0.0	0.0	0.0	0.0
Searching job	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	23.1	0.0	20.0

4. Agriculture

4.1. Land Holding and Land Use Pattern

In Dubaliya, agriculture is the main occupation, but the percentage of irrigated land is zero. Agriculture of the village is totally dependent on rain, wells and ponds. The average size of landholding is 1.9 acre. The operated land-size is also lower (1.4 acres); with 0.2 acre for landless and 3.7 acres for large farmers' households. Due to lack of irrigation facilities the permanent fallow land constitutes 27 per cent of total land.

Table 6: The Landholding Pattern across Different Households in Dubaliya Village

Particulars	Households				
	Landless	Small	Medium	Large	All
Size of land holding (acre)	0.2	0.9	1.7	5.3	1.9
Operated land (acre)	0.2	0.8	1.3	3.7	1.4
Irrigated area (%)	0.0	0.0	0.0	0.0	0.0
Permanent fallows (%)	4.1	25.9	24.6	29.2	27.1

It is observed from the Table 7 leasing-in and leasing-out of land are more common across small (8.5%) and large (6.3%) households respectively. It is also observed that about 3 per cent of households have leased-out land and about 5.7 per cent of households have leased-in land for crop production with some variation across different categories of households. Six per cent of landless and 8.5 per cent of small farmers have leased-in land for crop production (Table-7). About 6.3 percent of the large farmers have leased-out their land to landless, small and medium farmers for cultivation because of surplus availability of land.

Though, the village have low incidence of tenancy because of no irrigated land in the village. In terms of operated land, the shares of leased- in and leased-out lands are very high in case of landless households. It about 35.4 per cent of operated land have been leased-in and about 17.3 per cent of operated land has been leased-out.

Table 7: Incidence of Tenancy in Dubaliya village

Particulars	Households				
	Landless	Small	Medium	Large	All
Households leasing land (%)					
Leased-in	6.0	8.5	6.1	2.1	5.7
Leased-out	1.5	2.1	2.0	6.3	2.8
Share in operated land (%)					
Leased-in	35.4	10.2	4.6	0.6	4.4
Leased-out	17.3	0.7	1.5	2.6	2.8

4.2. Soil and Irrigation

In Jharkhand, about 90 per cent of land area falls under the red soil and it spread throughout the state. Out of the total geographical area (7.9 million ha) of the state, the net cultivated area is around 2.2 million hectares. While the total irrigated area is recorded only about 0.2 million hectares.

The village *Dubaliya* is characterized with red soil which is reddish in colour due to presence of iron. This soil was formed due to weathering of ancient crystalline and metamorphic rocks. The soil is rich in potash and become fertile with the proper use of fertilizers and irrigation. The major concern in the village is to maintain the soil fertility due to factors such as soil erosion because of poor soil management and injudicious use of fertilizers.

4.3. Crops and cropping pattern

Prior to the onset of green revolution (1970), the principal crops grown in the village were paddy, finger millet and maize during the *Kharif* season and lethyrus, gram and sweet potato during the *Rabi* season.

Nowadays, in the *Dubaliya* village, paddy becomes the major crop grown during the *Kharif* season. It covers more than 80 per cent of the total cultivable area. Though, the villagers also cultivate maize during the *Kharif* season. While *Urad*, potato, sweet potato, gram and onion are grown in *Rabi* season and it covers less than 5 per cent of cultivable area in the village. Summer gram is also grown in this village which covers almost 1 per cent of the cultivated area.

Table 8: Changing Cropping Pattern in Dubaliya Village

Crop season	1970	2010
<i>Kharif</i>	Paddy Maize Finger millet	Paddy Maize
<i>Rabi</i>	Lethyrus Gram Linseed Sweet potato	Vegetables (Potato, Onion) Sweet potato Gram
Summer	Summer vegetables	Summer vegetables

4.4. Preferences for Seed Varieties

In *Dubaliya* village, paddy is the main crop cultivated by the farmers. While interacting with the farmers of *Dubaliya* village it was revealed that the farmers select the seed variety for cultivation based upon the seed characteristics like yield, irrigation-need, fertiliser-need, crop duration and cooking of quality. The preferred seed varieties commonly used for paddy cultivation are Pioneer, IR 64, Shankar and Advanta which are ranked by the villagers (Table 9).

Table 9: Preference of Farmers for Seed Variety in Dubaliya

Variety	Higher yield	Less irrigation	Less fertilizer	Short duration	Good taste	Preference of farmers
Rice						
Pioneer	△△△ △△	△	△	△△△ △	△△△ △△	Second
IR 64	△△△ △	△△△△	△△	△△△ △△	△△△ △	First
Shankar	△△△	△△△△ △△	△△△△	△△△△	△△	Second
JK	△△	△△△△	△△△△ △	△	△	Fourth
Advantage	△	△△	△△△△ △△	△△	△△	Third

Note: Symbols are only indicators of change and do not depict the extent of that change in real terms with time

4.5. Livestock

Livestock is an important source of livelihood and the village Dubaliya is not an exception. The village had 183 cattle, 44 buffaloes and 122 goats in 2010. Besides, the village also had 160 poultry birds during the census of village in 2010. The average size of cattle worked out to be about 1 per household, while the average size of buffalo holding was only 0.2 per household (Table 10).

Table 10: Rearing of Different Livestock Species in Dubaliya Village (%)

Particulars	Landless		Small		Medium		Large		All	
	Live-Stock	Average	Live-Stock	Average	Live-Stock	Average	Live-Stock	Average	Live-Stock	Average
Cattle	47	0.7 (6.0)	24	0.5 (10.6)	39	0.8 (0.0)	73	1.5 (18.8)	183	0.9 (8.5)
Buffalo	9	0.1 (22.4)	15	0.3 (19.2)	0	0.0 (22.5)	20	0.4 (31.3)	44	0.2 (23.7)
Goat	46	0.7 (17.9)	29	0.6 (19.2)	17	0.3 (10.2)	30	0.6 (16.7)	122	0.6 (16.1)
Poultry	32	0.5 (7.5)	45	1.0 (12.8)	23	0.5 (12.2)	60	1.3 (22.9)	160	0.8 (13.3)
Other	1	0.0 (1.5)	5	0.1 (8.5)	8	0.2 (8.2)	4	0.1 (6.3)	18	0.1 (5.7)
Livestock*	135		118		87		187		527	

Note: Average figure in numbers, figure in parentheses are percentage.

* Total number of livestock in the village

In Dubaliya village, the number of livestock decreased in last few years. The villagers gave two reasons behind this decline. The first reason is the lack of availability of fodder due to less rainfall in the past years. The second reason is the lack of irrigation facilities constrains fodder cultivation in the village. Due to non-availability of labour to take care of livestock in the village, this work was done by the children. Though, after the opening of schools, parents prefer

to send their child to school rather than the grazing areas. The value of livestock per household has been registered by Rs 5731.

Though the livestock population is high in Dubaliya village, despite this, there is no veterinary hospital in the village. Thus, for the treatment of livestock, the villagers have to go to the nearest village Chandwe where a Vulnerary Hospital for animals is run by BAIF.

4.6. Farm Implements and Machinery

India is gradually moving towards the modern farming. With the introduction of mechanized farming, it has been possible to cut-down the farm-production costs, increase the productivity and check the post-harvest losses in the agriculture sector of the country.

Despite this, the farmers of Dubaliya village are still stuck to the traditional modes of farming. *Khurpi*, *Hasia*, iron plough, wooden plough and other small implements are used for cultivation in the village. On average, few farmers are having electric motors, which are used for their personal purpose (Table 12). Only 1.42 per cent households are having machines, and on an average total value of machines is Rs.11, 429.38. The investment in agricultural machinery is high in small farmers (Rs. 20, 340) in comparison to the large farmers who invest about Rs. 17,883 in machineries.

5. Economic Status

The economy of the village *Dubaliya* is mainly based on agriculture and its allied sector. Majority of the households of the village are engaged in fish farming. But, due to heavy use of chemical fertilizers the fish farming almost disappeared.

5.1. Sources of Income and Occupational Diversification

In *Dubaliya* village, agriculture and allied activities were the key sources of income and employment. The working population is around 29 per cent in this village with little variation across different categories of households. The working population of *Dubaliya* village were classified into four occupational categories like (i) Cultivator (ii) Agricultural labourers (iii) Non-farm workers, and (iv) salaried jobs.

More than two-third of the working population are engaged in cultivation and 23 per cent of them are employment as non-farm worker. About 7 per cent of the working population are regular salaried worker. The agriculture labour accounted for only 2.4 per cent of the working population (Table 13).

In the case of medium farmers, it is 60 per cent from agriculture and 40 per cent from horticulture. The landless farmers earn the great portion of their income i.e. 60 per cent by working as labourers both on-farm and off-farm and the remaining 40 per cent from agricultural activities in their fields.

According to the villager's perception, the majority of the population of *Dubaliya* falls under the 'poor' category (68%). While, only a small proportion of the village population (i.e. 2 per cent) is in 'rich' category. About 30 per cent of households in the village are in 'average or medium' category.

Table 11: Occupational Diversification in Dubaliya Village

Particulars	Households				
	Landless	Small	Medium	Large	All
% share of working population (No.)*	28.3	29.9	31.8	26.9	28.9
Cultivator	51.0	76.7	71.4	76.7	67.9
Agricultural worker	02.0	00.0	10.7	00.0	02.4
Non-farm worker	45.1	20.9	10.7	07.0	23.0
Salaried worker	02.0	02.3	07.1	16.3	06.7

*Share of different occupations particulars in total working population

6. Health Care and Sanitation

6.1. Health

There is one primary health centre (PHC) in the village *Dubaliya*. It has been established in 1980. But, it lacks infrastructural facilities and sufficient medical staffs. A lady doctor is attached to the PHC, who visits this centre for 2-3 hours daily. Consequently, the villagers prefer to proceed towards the Kanke for any major treatment, which is about 6 km away from *Dubaliya*.

According to the villagers of *Dubaliya*, few years back, the children were more prone to diseases. However, the proneness of children to disease has declined in recent years. The functioning of the PHC should be improved and infrastructure of the same need to be strengthened to ensure better health facilities within the village itself.

6.2. Drinking Water

Unsafe drinking water and inadequate sanitation are the major causes responsible to the poor health in the villages. There is no scarcity of drinking water in *Dubaliya* village. Almost, all the households of *Dubaliya* use to drink of water from their personal wells. Besides, government also established about 50 hand pumps to meet the need of safe drinking water in the village. However, the quality of drinking water is an issue and often there is an outbreak of water born diseases.



Figure 4: Personal Drinking Water Facility of a Rich Household

6.3. Sanitation and hygiene

The sanitation condition in *Dubaliya* village is poor. There are only three *pucca* latrines in the village. The majority of the population of this village defecate in the open field, which is not only indecent but in-sanitary also.

7. Market, Transport and Communication

7.1. Market

Two weekly markets i.e., *Haat* (unorganized market) are held in the village Dubaliya, on Tuesday and Friday of every week. These markets cater to the need of the villagers. Similarly, within a half kilometre radius, another village namely Kumaria also organizes the same type of *Haat* where villagers of the surrounding area used to visit.

The village *Dubaliya* is located very close (11 km) to the state capital Ranchi. Hence, people from this village prefer to go to the Ranchi market as bigger markets give better opportunities and wider options to them.



Figure 6: Unorganized Vegetable Market (Haat) at Dubaliya Village.



Figure 7: Kirana Shops at the Village.

7.2. Transport

Dubaliya village is located nearby the road. The people from this village are used to visit Ranchi and other places by the mode of bus, auto and other vehicles. In *Dubaliya*, there are ten bullock carts, two tractor, one auto, three car and thirty five motorcycles.

7.3. Communication

Communication network provides linkage between people and institution for promotion of mutual learning and use of agriculture-related technology, knowledge, skills and information. The system integrates farmers, agricultural scientists, input dealers and the private sectors to harness the knowledge and information from various sources i.e. television, radio, news papers and mobile phones and other modern technologies etc. for better farming and improved livelihood. The mobile phone revolution has changed the situation in this village and many mobile companies are now offering their services in this village. Almost every household has at least one mobile phone except weaker sections of the society. The modern communication technology i.e. mobile phones help the family members to connect with their out-migrated family members, who have gone-out for their higher education and to earn livelihood.



Figure 5: Modern Communication Facilities (Mobile).

7.4. Electricity

Electricity supply was started in the village in the year 2007. Though, the village is getting sufficient power supply with 15-16 hours a day. There is one Vocational Training Centre run by the SHGs in the village.

8. Welfare and Development Programmes

Central and state government's sponsored several welfare programmes are being operated in the village *Dubaliya*. These are as under;

1. *Aanganwadi Schemes*
2. Public Distribution Scheme
3. *Antyodaya Yojana*
4. *Annapurna Yojana*
5. Mid-Day Meal Scheme
6. Mahatama Gandhi National Rural Employment Guarantee Scheme
7. Crop Insurance
8. Old Age Pension
9. Pension for Physically Handicapped
10. Self Help Group (SHGS)/ Farmers Club
11. Subsidy on Farm Well/Farm Ponds
12. Subsidy on Shade Net
13. Subsidy on Purchase of Agricultural Implementation/ Machinery
14. Scholarship Program
15. Widow Pensions
16. Family Planning
17. Integrated Scheme of Oilseeds Pulses Oil Palm and Maize (ISOPOM)
18. Livestock Insurance Scheme
19. National Food Security Mission
20. National Horticultural Mission
21. *Shri Vidhi* Agricultural Organization
22. Prime Minister Relief Package Program (For Seed Purchase)
23. *Rajeev Aarogya Shree*
24. *Rashtriya Krishi Vikas Yojana*
25. Subsidy on Purchase of Livestock
26. Watershed Programs

The effect of some of these schemes has become visible like implementation of *Anganwadi Yojana* has facilitated continuation of education, free meal and regular and proper vaccinations in the village. It aims at improving the nutritional and health status of children in the age group of 0-6 years. Implementation of Scholarship Programme made possible to continue the higher education, especially for girls, after the primary education in the native village. Introduction of mid-day meal schemes has increased enrolment in schools, etc. however; a wider impact has yet to emerge.

A glance at the infrastructural facilities of *Dubaliya* village can be had from Table 14.

Table 12: Developmental Infrastructure in Dubaliya Village

Particulars	Number
Upper Middle School	: One
High School	: No
Vocational Training Centre	: One
Primary Health Centre	: One
Hospital	: No
Qualified Private Doctor	: Yes
Auxiliary Nurse Mid-Wife	: One
<i>Anganwadi</i> Centres	: Two
Private Chemist Shop	: No
Thrashers	: -
Tractors	: Two
Bullock Carts	: Ten
Rickshaws	: One
Mechanical <i>Thela</i>	: -
Private Four Wheeler (For public transport)	: Three
Bus Service	: No
Rail Head	: No
Bank	: No
Drinking Water Supply	: No
Electric Supply	: Good
Street Solar Light	: -
Radio Sets	: -
TV Sets	: Few
Public Hand Pumps	: Fifty
Post Office	: Yes
Telephone Land Line	: No
Mobile Phone	: Yes
Agricultural Input Shop	: No
Agricultural Market	: No
Public Distribution System	: Yes

9. Households' Preference for Different Public Institutions

According to the people of Dubaliya, 'School' (Figure-6) is the most important public institution, because as they understand the value of education, which would help for the growth and development of the family and village.

The next rank is given to the 'Primary Health Centre (PHC)' by the villagers, which is available in the village. But the villagers complain that there is no any qualified doctors, sufficient medical staffs and infrastructural facilities in the village PHC. Because of this, they have to go to Kanke for their major medical treatment.

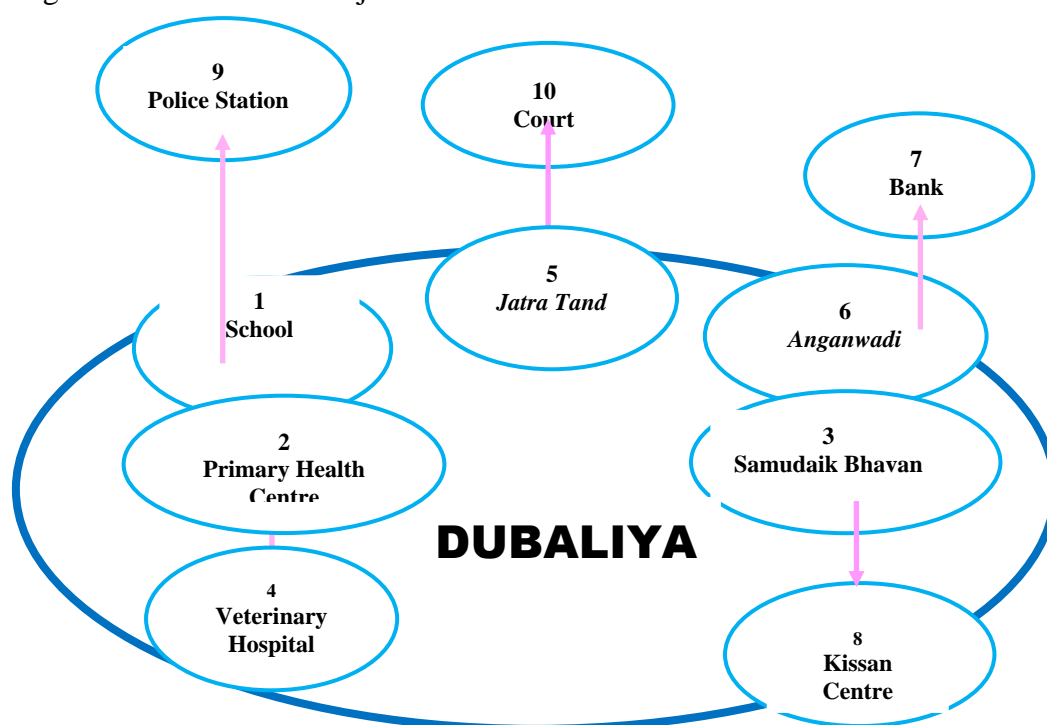


Figure 6: Preference of Households for Public Institutions and Their Location.

Note: The number in the circle shows the preferential ranking of that institution by the villagers, and length of arrow depicts the relative distance from village.

The other two most important institutions are: 'Samudaik Bhawan' and 'Veterinary Hospital'. Though, the *Samudaik Bhawan* is the gathering place of all the villagers on any occasion. There is no veterinary hospital exists in the village. The villagers have to go to the nearest village namely *Chandwe* for any treatment to their livestock.
















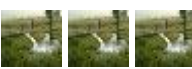




















The other preference is given to the *Anganwadi Kendras*. The women and girls of the village learn to sew or stitching in *Anganwadi Kendras*. It helps them to earn money and make self-reliance. *Anganwadi Kendras* also organizes the *Jatra Tand*, where all the religious activities of the village take place.

Police station, court, *Panchayat Bhavan* is regarded least important by the villagers as the farm community seems to be peaceful with almost no incidence of thefts, dacoity, fights, etc..

10.Changes in Socio-economic and Ecological Indicators in Dubaliya

Based on rural development indicators, the socio-economic and ecological changes in the village *Dubaliya* are depicted in Table 15. The perceived reasons for the change have also been indicated in the Table 15.

**Table 13: Changes in Socio-Economic and Ecological Indicators in Dubaliya Village:
1970-2010**

Indicators	1970	1990	2010	Reasons
Soil fertility				Chemical intervention, Less use of organic manure, and lack of insects
Number of crops				Lack of water, Demonstration effect, Lack of initiative
Fertilizer use				Decreasing soil fertility
Area of cultivation (Per capita)				Increasing population, decreasing water availability, if not seasonal than perennial
Horticulture				More vegetables production
Irrigation				More investment in private boring, Government initiative
Migration				For education and salaried jobs.
Ground water level				Less rain
Livestock				Less manpower, less fodder, inclination towards education
Diseases				Intervention of chemicals in crops increased.
Forest				Lack of rain, cutting of forests
Wild life				Decreasing forest and encroachment

Note: The symbols used in this table are only indicators of a change and do not depict the extent of change in real terms over time.

11.Opportunities and Problems

11.1. Opportunities

- w With increased irrigation facilities, the farmers of this village could diversity their cropping pattern toward horticultural crops like Jack fruits and drum sticks, which can augment the farm income of the village.
- w Establishment of a high school in the village will strengthen the rational thinking about the people, particularly the younger generation and will provide them income opportunities.
- w Establishment of a veterinary hospital in the village will help in reducing the livestock diseases by providing the proper treatment.
- w With desired availability of fodder which will increase the livestock-rearing in the village. It will also help to in setting-up of milk cooperatives in the village may add to the village economy.
- w Re-functioning of the Vocational Training Centre in the village can be more useful to the villagers.

11.2. Problems and Constraints

During the interactions with the villagers highlighted several problems and constraints which have significant bearing on their socio-economic status. Important problems and constraints are listed below;

- w Addiction of alcohol, (particularly local beer Handiya) especially in male is highly prevalent in the village.
- w Lack of strong educational infrastructural facilities is the main hurdle in the growth and development of the people of Dubaliya village.
- w Lacks of proper primary healthcare facilities in the village, people have to go to the Kanke for major medical treatment.
- w Lack of healthcare facilities for livestock in the village.
- w Lack of adequate electric supply (in terms of mega watt), which leads to more units consumption within the village.
- w Lack of adequate numbers of Anganwadi centres to teach the stitching and other activities
- w Lack of irrigation facilities in the village, which limits the scope of diversification in favour of fruits cultivation.
- w Lack of adequate knowledge and skills in adopting modern farming techniques.
- w Lack of post harvest infrastructure for agro-produce management in the village.
- w Lack of markets for agro-products.
- w Lack of sanitation facilities and poor awareness about the hygiene practices make villagers more susceptible to diseases.

Non-existence of any cooperative institution like Farmers Club, PACs, Cooperative/Welfare Society in the village.