

Makhiyala Village at a Glance

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I. INTRODUCTION

Makhiyala village is situated on the outskirts of Junagadh city, along state highway 26 connecting Junagadh to Dhoraji, in Saurashtra region of Gujarat. This lies in the southern part of Gujarat. Makhiyala village is located just 12 km away from Junagadh city, taluka and district-headquarters, and it is well connected with Junagadh through national highway systems. In fact, the village is located about 360 km south of the state capital Gandhinagar and 110 km north from 'Somnath', one of the holiest places for Hindus in the region. Makhiyala is one of the more progressed villages among the four villages selected for Village Level Studies (VLS), Village Dynamics in South Asia (VDSA), in Gujarat. The geo-reference point of Makhiyala village is 21°37' 5.1" N and 70° 27' 11.2" E.

The Research Program on Markets, Institutions and Policies (RP-MIP) of ICRISAT led research project on "Village Dynamics in South Asia (VDSA)", in 2009,

selected 18 villages in five states of SAT India for in-depth study on village economy and rural livelihoods. Originally, the ICRISAT Village Level Studies (VLS) were established in six villages of Maharashtra and Andhra Pradesh in the year 1975.

One of the project objectives is to track changes in rural poverty in household and village economies in South Asia. For this purpose, four villages from the state of Gujarat have been selected; Makhiyala village is one of the twelve new villages that the VDSA project selected in the semi-arid tropics (SAT) of India for panel household survey since early 2009.

Makhiyala village represents socioeconomic and agricultural production patterns followed in large parts of southwestern Gujarat, called the Saurashtra region of Gujarat. In this context, this village at a glance document has been prepared with the objectives of providing ready-made and handy information on basic statistics and socioeconomic and institutional characteristics of





the village – Makhiyala. This information is expected to be useful to researchers and development planners in getting basic information about the farming systems, and socio-institutional features of the village.

II. HISTORICAL BACKGROUND / DEVELOPMENT OF THE VILLAGE

Social: According to older farmers and key informants in the village, the history of Makhiyala village goes 700 years back in history. According to the farmers, people of the Lewa Patel castes migrated to Saurashtra region from Vadodara district of Gujarat some time during the 12th century. Gajera family based households make up more than 80% of households in the village. According to the farmers, they migrated to the village (and to the Saurashtra region) from Gajera village in Vadodara district. There are 14 different kinds of caste structures (or social castes) in the village. Among them, households belonging to Lewa Patel caste rank first in terms of number of households and population. Other major castes include Rajput, Rabari, Bharwad, Vanond, Potter, Darji and Sutar. There are also a few families involved in traditional cast occupations such as blacksmith, goldsmith, Harijan, Kadiya and Brahmins. Due to the proximity to the market town and as it is almost like a peri-urban settlement, the livelihood activities and employment patterns in the village are quite different from other traditional VDSA villages selected for the SAT India component of the study. Due to closeness to the market town and better access to the urban center, we find less caste discrimination and/or religious activities that are prominent features of other traditional villages. In this context, study of this village – Makhiyala – carries a special significance in better understanding the wide variation of villages across India, and in South Asia, in general.

Political: A Gram Panchayat (administration) consisting of 9 elected members and the Sarpanch has been set up in the village. The Panchayat administration has been

functioning there since early 1960s. Eligible members of the whole village panchayat elect the Sarpanch, or chief of the village; whereas the Deputy Sarpanch is elected from elected Panchayat members of the village. The Sarpanch is the executive officer and the Gram Sevak is the secretary of the Gram Panchayat. The present Sarpanch of village is from the Gajera family (Lewa Patel), Mrs Artiben Gajera (under a seat reserved for women). There are two major political parties in Makhiyala village, both are headed by Gajera (Lewa Patel) family. However, the first Sarpanch of the village in early 1950s was from the Jain community; at present there is not a single Jain family in the village. This shows the changing dynamics of population structures and socio-ethnic factors in the village, based on the varying casts and community factors.

In fact, there is no major difference in functioning of the two major political parties present in the village. Earlier, lower caste people were not actively involved in the local politics and in village panchayat bodies, however, after enactment of the government reservation policy for lower cast community members in the local bodies, many of the local leaders from lower caste population are now members of the village panchayat, cooperatives, and other political institutions functioning in the village.

Economic: Crop production, livestock rearing and farm labor are the major sources of livelihood engagement and sources of livelihood incomes in the village. Over time, livestock rearing, especially she-buffaloes for milk, has become an important source of livelihood in the village. As a result, a dairy cooperative has been set up and a cooperative managed dairy collection center has also been functioning in the village. However, recently, outmigration to nearby cities has been a major source of income for many of the households in the village, which may be due to more mobility of population closer to the market-town settlement in search of better jobs with higher earning prospects, and also due to various other



social factors. Many of the households in the village are also working for salaried jobs in Junagadh city, and at the same time, also operating their own small-scale business enterprises such as provision shop, pan shop, hotel-restaurants, agriculture input shop, mechanical center, and such others. A few villagers (labor class households) are also working in diamond polishing activity. The cropping patterns in the village have changed drastically over the recent period, as many of the farming households have shifted from cereals to cash crops (cotton, pigeonpea and wheat), and more recently, also shifted to high value and niche products and spices such as coriander, aniseed (saunf) and others. Many farmers in the village have also adopted modern irrigation technologies such as drip irrigation and sprinkler irrigation technology. As a result, income per unit of land has increased over time due to use of various improved technologies, leading to increase in savings as reflected by improvements in household assets and building structures in the village. There are quite a few concrete houses in the village with modern amenities as available in the urban centers.

In early 1960s, the Gujarat Industrial Development Corporation (industrial park) was set up just 5 km away from the village on the way to Junagadh. This has provided not only easy employment opportunity to large numbers of households (members) there but has also helped transform the village economy at a rapid pace. Some of the members of the community reported that the village livelihood has completely changed after the establishment of the industrial park near the community.

Institutional: Makhiyala village has an independent Gram Panchayat building, a concrete house with facilities of all modern amenities, including access to computer and internet. Likewise, a milk cooperative, called the Makhiyala Milk Co-operative Society, is also actively functioning in the village for over 15 years, and collecting more than 1500 liters of milk daily. In addition, two privately operated dairies are also functioning in the village. The village post office was

established as early as in 1962. Likewise, the District Central Co-operative Bank – Junagadh was established there in 1969; Bank of Baroda, a nationalized bank, opened its branch in the village back in 1977. These two banks have been providing agricultural sector loans to a large number of farming households in the village.

Recently, an engineering college (Bachelor level) has been established, which has drastically increased the access to higher education institutions to the average community members in the village, as well as rural communities surrounding the Makhiyala village. This has contributed to the fast pace of development of the village and high pace of mobility of the community members in and out of the village, especially after graduation from the college. Recently, two boys’ hostels have also been established in the village, which has facilitated the influx of students from nearby rural areas. Likewise, three primary schools and one high school have been functioning in the village for quite a long time. There is one big community hall of Lewa Patel caste in the village, which is widely used for community level functions like marriages and other activities.

Technological: Makhiyala village has made tremendous progress in recent years by adopting new technologies in farming. More than 90 percent of the farmers in the village are using either hybrids or high yielding varieties of crops on their field. Some of the commonly cultivated crops are groundnut, wheat, cotton, cumin seed, castor, black gram and sesame. Some of the popular hybrids cultivated in the village are: BT cotton hybrid in cotton. TG-26, G 20, G-3, G-2 and G-1 are commonly grown improved varieties of groundnut. In fact, cumin and sesame are the two major spice crops widely grown in the village, and also in the Saurashtra region.

There are nearly 20 tractors and 25 mechanical threshers in the village, owned by the households residing in the village, which substantially helped in timely preparation of land for growing crops and threshing grains. Combine harvesters are also used by many farmers for harvesting and threshing wheat but on custom hiring basis; many of





them are also brought from Punjab. Farmers are also using tractor operated power sprayers for spraying pesticides. Smallholding farmers also use mini tractors, which can be purchased at less than ` 300,000- for sowing seeds, transporting their farm produces, and threshing. In recent years, many farmers are also increasingly using weedicides to control the weeds and adding micronutrients to the soil to boost the farm productivity and farm return. Adoption of improved soil and water conservation measures has helped many farmers increase their crop yield and farm income.

Infrastructural: Makhiyala village is well connected to Junagadh city, a main market town in southern Gujarat, and also a taluka and district headquarters of Junagadh district; Makhiyala is also a part of Junagadh district. Until 20 years ago, all the roads in the village were *kuchcha* but concrete roads covering over 3 km have been since built in the village. Excellent public transport facilities are available in the village to visit nearby towns, and it is well connected year round with Junagadh market through a road network. Besides, there are also a good number of private transport support services that provide autos, jeeps and vans operated there locally.

The village was provided with electricity connections as early as 1952, and almost all houses now have access to electricity. Electricity is widely used in the village for streetlights, domestic uses and for operating groundwater pumps to lift water for irrigating the field crops. There is a BSNL (government telephone services) office and a private mobile service tower in the village. Most of the houses are pucca (brick/stone and cement) houses with ample space.

There is one primary health center (PHC) along with three private medical practitioners operating their private clinics in the village and providing primary health care to the villages. There are four Anganwadis (pre-primary), 3 upper primary schools and one high school operating in the village.

Likewise, the village also has a public funded good drinking water supply scheme with tap connection (>400 connections), hand pumps, bore-wells and rain water harvesting. There is one big community hall of Lewa Patel caste in the village.

Educational: Average literacy level of Makhiyala village is about 75%, which is higher than the average literacy level commonly found in other SAT villages in Gujarat and at the all-India level. There are four Anganwadis (pre-primary schools) and three upper primary schools, (Classes 1 to 8) and one high school (Classes 9-10) operating in the village. Recently, in 2009, a privately operated Diploma Engineering College has also been started close to the village, called Balaji Institute of Engineering & Technologies, which has attracted many students from nearby areas who are temporarily staying in the village. In fact, many students from the village are also going to Junagadh for higher education.

Religious: Hindus are the dominant religious community in the village. Religion also plays an important role in the daily life of the villagers; there are 7 temples in the village dedicated to different gods such as Hanumanji, Ram, Krishna and Lord Shiva. There is also one big Kanabapa temple in the village, which is famous all over Gujarat, as Gajera community members from all over Gujarat come there for worship. In addition, the other popular holy places of pilgrimage near the village are Somnath, Talethi Girnar, Veerpur, Chotila and Dwarka; all of these are very popular pilgrim places for Hindu from all over India and outside. Some of the popular festivals celebrated in the village are: Makar Sankranti, Holi, Dhuledi, Sri Ramnavmi, Hanuman Jayanti, Janmastami, Diwali, Navratri and Dussera. People from all castes participate in the National festivals, namely Republic Day (26 January), Independence Day (15 August) and Gandhi Jayanti (2 October).



III. BASIC STATISTICS OF THE VILLAGE

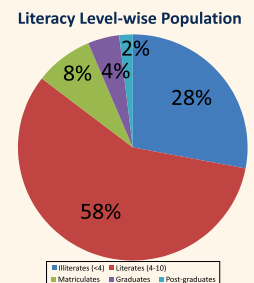
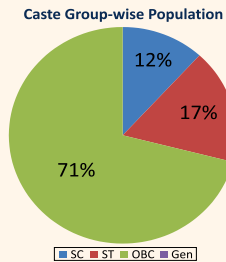
A) LOCATION/ACCESSIBILITY

- Village: **Makhiyala** 2. Tehsil: **Junagadh**
- District: **Junagadh** 4. State: **Gujarat** 5. PIN: **362014**
- GPS values: (a) Latitude: **21° 37' 5.1" N** (b) Longitude: **70° 27' 11.2" E** (c) Altitude (m): **78**
- Nearest town: (a) Name: **Junagadh** (b) Distance from village (km): **12**
- Nearest State Highway: (a) Number: **SH 26** (b) Distance from village (km): **0**
- Nearest National Highway: (a) Number: **NH 8A** (b) Distance from village (km): **6**
- Name of the Village Panchayat in which the village falls: **Makhiyala**
- Details of the Sarpanch/president Village Panchayat:
 - Name: **Mrs Artiben R Gajera** (b) Cell No: **09979587678** (c) Tel Res): **(0285) 2687263**
- Details of the Gram Sevak/Agricultural Assistant:
 - Name: **Dhamjibhai M Pansuria** (b) Cell No: **09879765459**

B) DEMOGRAPHY (in 2010)

- Population (No): **3792** 2. Households (No): **789** 3. Voters (No): **3190** 4. Farmer accounts/*Khatas* (No): **770**
- Classification of population:**

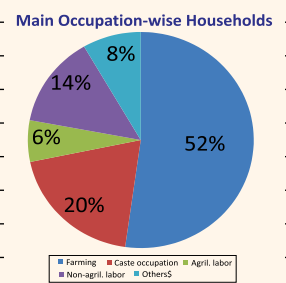
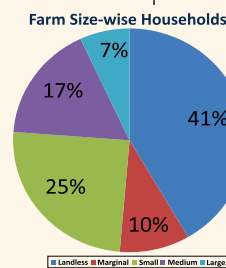
Category	No.	Farm Size*	No.	Religion	No.	Caste	No.	Literacy	No.	Gender	No.
SC	447	Landless	1362	Hindu	3792	Lewa Patel	2872	Illiterates (<4)	1061	Male	1660
ST	-	Marginal	447	Muslim	0	Harijan	403	Literates (4-10)	2179	Female	1423
OBC	651	Small	900	Christian	0	Rajput	94	Matriculates	312	Children	709
General	2694	Medium	699			Rabari	114	Graduates	168	(<14y)	
		Large	384			Bavji	62	Post-graduates	72		
						Bharwad	57				
						Vanand	60				
						Potter	49				
						Darji	36				
						Sutar	15				
						Soni	10				
						Blacksmithy	5				
						Kadiya	6				
						Brahmin	9				
Total	3792		3792		3792		3792		3792		3792



*<0.1 ha=Landless; 0.1-<1 ha=Marginal; 1-<2 ha=Small; 2-4 ha=Medium; >4 ha=Large

6. Classification of households: Male-headed (No): **746** Female-headed (No): **43**

Category	No.	Farm Size*	No.	Religion	No.	Caste	No.	Main occupation	No.
SC	86	Landless	325	Hindu	789	Lewa Patel	576	Farming	412
ST	0	Marginal	84			Harijan	77	Agril.labor	154
OBC	154	Small	194			Rajput	39	Caste occupation	49
General	549	Medium	132			Rabari	26	Non agril. labor	108
		Large	54			Bavji	16	Others\$	66
						Bharwad	15		
						Vanand	12		
						Potter	11		
						Darji	9		
						Sutar	3		
						Soni	2		
						Blacksmithy	1		
						Kadiya	1		
						Brahmin	1		
Total	789		789		789		789		789



*<0.1 ha=Landless; 0.1-<1 ha=Marginal; 1-<2 ha=Small; 2-4 ha=Medium; >4 ha=Large;

\$ including salaried, moneylenders, middlemen and service sector. (Based on survey in the village in 2010).

C) LAND USE PATTERN (2009-10)

1. Distribution of Geographical Area:

Particulars	Ha
Agricultural land	1225
Uncultivable land	24
Grazing lands	63
Land used for roads, buildings and non-agricultural purposes	35
Land occupied by water resources (tank, river)	15
Land occupied by hills, rocks, etc	
Other (specify):	
Total Geographical Area	1362

2. Cropped Area:

Season	Ha
<i>Kharif</i>	1218
<i>Rabi</i>	630
Summer	344
Annual/Perennial crops	8
Gross Cropped Area	2190

3. Irrigated Area:

Season	Ha
<i>Kharif</i>	668
<i>Rabi</i>	629
Summer	344
Annual/Perennial crops	8.4
Gross irrigated area in <i>Rabi</i> (%)	1650
Percentage of Irrigated crop area	75

D) LAND RESOURCES

1. Soil distribution:

Soil type	% area
Medium black	70
Sandy loam	10
Others	20

2. Irrigation sources:

Sources	Total No.	Working No.	Approx. depth (m) of working wells	Irrigated area (ha yr ⁻¹)
Bore-well	560	448	450	728
Open well	329	243	100	240
			Approx. land area covered (ha)	
Ponds	0	0	0	0

- 3. Rainfall:** (a) Quantity (mm/year): Average rainfall of Junagadh (Normal: **680 mm**)
 (b) Actual in Makhiyala in a year (Jun 2010-May 2011): **1463 mm**
 (c) Actual number of rainy days (Jun 2010-May 2011): **76**

E) CROP PRODUCTION (2010-11)

Kharif		Rabi		Summer		Annual/Perennial Crops	
Crops	Area (ha)	Crops	Area (ha)	Crops	Area (ha)	Crops	Area (ha)
Cotton	512	Wheat	280	Sesame	114	Banana	8
Groundnut	487	Coriander	164	Groundnut	208		
Castor	52	Cumin	128	Other	22		
Fodder	35	Gram	33				
Pigeonpea	18	Other crops	25				
Pearl millet	15						
Vegetables	11						
Blackgram+greengram	89						
Total	1218		630		344		8

Source: Village level survey in 2010-11.

F) MAJOR ASSET TYPES IN THE VILLAGE (as of 1 June 2010)

1. Productive Assets:

Livestock		Heavy Machinery	
Type	No.	Type	No.
Cow(indigenous)	98	Tractor	18
Cow (exotic)	2	Harvester	0
Buffalo - she	302	Thresher	26
Bullock	320	Cart	120
Sheep	52	Auto	17
Goat	68	Tempo- van	7
Poultry	75	Flour mill	2
Other (specify):		Oil mill	2
Buffalo (He)	6		
Milk sale (lt/day)	1450		

2. Consumer Assets:

Type	No.
Television	618
Refrigerator	428
Air-Conditioner	5
Washing machine	12
Microwave oven	3
Dish Antenna	30
Motorbike	73
LPG connection	
Dish Antenna	
Motorbike/Scooty	318
Car/Jeep	12
Truck/Bus	2
Computer	25
Other (specify) Mobiles	1250

3. Buildings:

Type	No.
Houses-Pucca	640
Houses-Kuchcha	137
Houses-Thatched	12
Cattle shed	76
Irrigation pump houses	302
Storage godowns, large-size	2
Other (specify)	

G) BASIC NEEDS

1. Type of food (No. of households): (a) Pure vegetarian: 742 (b) Non-vegetarian: 47
2. Major type of clothes: (a) Men: **Pants & Shirt, Choveni Zabba**
(b) Women: **Saree and blouse, Pajama & Kurti, Chaniyacholi**

H) INFRASTRUCTURE

1. Village electrification: **Yes** No. of houses having access to electricity: **708**
2. Tar/metal/cement road to village: **Yes**
3. Is there a tar/metal/cement road inside the village? **Yes** Length of road (km): **2.5**
4. Public transport facility: Public/private bus facility to village: **Yes** If yes, No. of trips/day from town to village: **28**
Other modes of travel available? **Yes** If yes, specify: **Auto/Jeep/Tum Tum**
5. Drinking water facility: **Yes** If yes, sources: **Hand pump, Bore-well/Rainwater harvesting**
Tap connections available? **Yes** Number of connections: **412**
6. Public toilet/urinal facility: **Yes** Number of units available: **1**
7. Public health facility: **Yes** PHC sub-center: **1** Private Doctors: **3**
8. Veterinary health facility: **No** Distance to nearest facility (km): **14**
9. Banking facility: **Yes** If yes, no. of PACS: **1** RRB: **1** Commercial Bank: **1**

10. Educational facilities:

Level	Number of institutions	Enrolment (Number)	
		Male	Female
Pre-primary (Anganwadi)	4	72	69
Primary (Standard 1-8)	3	118	111
Higher Secondary (Standard 9-10)	1	63	58
Diploma College (Engineering)	1	718	86

11. Agricultural input shops:

Input	Available in village?	If no, nearest available place	Distance from village (km)
Seed	Yes	-	2
Fertilizer	Yes	-	1
Pesticide	Yes	-	2
Machinery – Purchase	No	Junagadh	12
Machinery – Custom hiring	No	Junagadh	12

12. Agricultural output market: Weekly shandy (market) in the village? **No**
No. of wholesale traders/commission agents in the/visiting the village: **19**
13. Storage godowns/warehouses: **Yes**
14. Other business units (number):
- | | | | |
|----------------------------------|---------------------------------------|-----------------------------|-------------------------|
| Grocery shop: 10 | PDS Shop: 1 | Kerosene shop: 1 | Hotel/Canteen: 8 |
| Flour mill: 2 | Chilli/spices grinding shop: 2 | Pan shop: 12 | Carpenter: 1 |
| Blacksmith: 1 | Goldsmith: 1 | Cobbler: 3 | Potter: 3 |
| Mason: 6 | TV/Radio mechanic: 2 | Cycle repair shop: 2 | Sweet shop: 2 |
| Motorcycle repair shop: 4 | Money-lenders: 2 | Welding shop: 2 | |
| Photography Shop: 1 | Mandap Decorator: 3 | | |
15. Other institutions (number):
- | | | | |
|-------------------------|-----------------------|------------------------|--------------------------|
| Sakhi Mandal: 2 | Post Office: 1 | Milk Dairies: 4 | |
| Bhajan Mandal: 1 | Banjo Party: 1 | Youth Club: 2 | Community Hall: 3 |
16. Place of worship (No): Temple: **8**

D) GOVERNMENT WELFARE PROGRAMS RECENTLY IMPLEMENTED

SN	Government Program	Approximate no. of beneficiary households in 2010
1	Anganwadi (pre-school kindergarten center for children)	412
2	Mid-day meal scheme for school-going children	217
3	Bal Pravesh	118
4	Nirogi Bal Yojana	89
5	Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)	87
6	Kanara Kelavani Campaign	76
7	Indira Awas Yojana	66
8	Sakhi Mandal	40
9	Vidhava Sahay & Talim Yojana	14
10	E-gram Yojana	Whole village



**International Crops Research Institute
for the Semi-Arid Tropics**



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About ICRISAT

The **International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** is a non-profit, non-political organization that conducts agricultural research for development in Asia and sub-Saharan Africa with a wide array of partners throughout the world. Covering 6.5 million square kilometers of land in 55 countries, the semi-arid tropics have over 2 billion people, of whom 644 million are the poorest of the poor. ICRISAT innovations help the dryland poor move from poverty to prosperity by harnessing markets while managing risks – a strategy called Inclusive Market-Oriented Development (IMOD).

ICRISAT is headquartered in Patancheru near Hyderabad, Andhra Pradesh, India, with two regional hubs and five country offices in sub-Saharan Africa. It is a member of the CGIAR Consortium. CGIAR is a global research partnership for a food secure future.

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