

**DEVELOPMENT AND POVERTY REDUCTION: DO INSTITUTIONS MATTER?
A STUDY ON THE IMPACT OF LOCAL INSTITUTIONS IN RURAL INDIA**

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DEVELOPMENT AND POVERTY REDUCTION: DO INSTITUTIONS MATTER? A STUDY ON THE IMPACT OF LOCAL INSTITUTIONS IN RURAL INDIA

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Abstract

The paper examines the impact of local institutions on development and poverty in the rural areas of India. Recent research on the role of institutions on the path of economic development indicates the importance of both “macro” and “micro” institutions including local institutions. The study finds a large number of both formal and informal local institutions in the surveyed villages, and a substantial degree of interaction of the households with the institutions. These include both formal institutions such as service cooperatives and dairy cooperatives, as well as informal institutions such as savings groups, community associations and labour groups. The study finds that apart from the standard factors included such as land, capital and labour, the presence and membership in local institutions plays a significant role in explaining the variation in household incomes and gain in capital assets over time. Savings/ micro-credit groups, and dairy cooperatives are found to be particularly important. Further, membership in these institutions is not found to be related to high asset levels or high caste – it is often inversely so. This indicates a stronger developmental role. Recorded opinions of the households supports the findings on the impact and beneficial role of local institutions. The study confirms that institutions do matter, and that local institutions can and do make a significant contribution in helping development in the rural areas, especially so for the lower income groups.

Introduction

Institutions and their impact on economic development has been a subject of considerable interest in the recent years. It is being widely acknowledged now that apart from the standard factors of capital, labour and technology, institutions may matter substantially in determining the growth path and the outcome of development (North 1997). Institutions may often help in explaining why growth and development outcomes vary across areas, countries, and also over time. Olson and Kahkonen (2000) and Picciotto (1995) support the usefulness of the institutional economics approach.

Williamson (2000) classifies the institutional environment into a “macro” and “micro” reality or levels. The macro level deals with the rules of the game or the humanly devised constraints that structure political, economic and social interactions: the informal

constraints – sanctions, taboos, customs, traditions and codes of conduct, and formal rules – constitutions, laws, property rights, North (1991). The micro level deals with institutions of governance – market, quasi-market and hierarchical modes of contracting, or of managing transactions and seeing activities such as economic activities through. Most formal and informal local institutions in the rural areas of India may fall into the micro category. Gandhi (1998) provides a survey on institutions related to agricultural development in India. Households are usually embedded in the local institutional environment and they interact with it dynamically under the influence of prevailing social, economic and political structures, culture and power relations. Some institutions favour the poor while others discriminate against them. The success of collective action for gaining access to resources and markets often depends on the effectiveness of institutions in serving their constituencies. The decisions that households make on how to allocate resources and generate income often depend, not only on the household's resources but also on the local institutional environment.

This paper outlines the local institutional environment in a sample of villages in rural India. It examines the interaction of households with the institutions. It examines whether over and above the standard determinants of household welfare, local institutions could be making a difference in development outcomes such as income and capital asset growth. Conversely, it also studies whether membership in these institutions is itself restricted by economic and social status. Together, it then seeks to examine whether local institutions make a difference in the outcomes of economic development and poverty alleviation.

Background and Data

There have been very few studies which have critically examined these relationships at the micro level. Grootaert and Narayan (2001) have examined the relationship between

local institutions, poverty and household welfare in Bolivia, focusing mainly on social capital. They find significant returns to household investment in social capital especially for the poor. Donnelly-Roark, Ouedraogo and Ye (2001) have examined whether local institutions can help reduce poverty. They find that the local institutions seem to play a significant role.

Bardhan (2000) and Chelliah (2000) have examined institutional impediments to economic development at the macro level in India. It was in mid-1991 that India had initiated decisive economic reforms making a break away from the strongly inward-oriented policy regime of the past (Ahluwalia and Little 1998). Licensing requirements were drastically rolled back to give private sector a free hand. The initial response to the reforms was quite striking and included faster growth, and better export performance. However, constraints particularly from institutional failures, as well as infrastructure bottlenecks and resistance from vested interests created many difficulties.

The study is based on information collected in a survey on rural household income strategies and interactions with the local institutional environment conducted by an Indian Institute of Management, Ahmedabad and FAO (see Gandhi 1999). Four diverse villages were intensively studied through approaches of PRA, household survey and institutional survey in the year 1998. Two of the villages were from a semi-arid area and two from a sub-humid area, in the state of Gujarat in western India. The household survey data were collected from a stratified random sample of 120 households. 35 households were sampled from each of the bigger villages, viz. Malan in Banaskantha district and Malawada in Kheda district. 25 households were sampled from each of the smaller villages, viz. Rampuravadla in Banaskantha district and Piparia in Kheda district.

Agriculture is important and highly diversified in state of Gujarat. But the state is not endowed with the best of agro-climatic conditions. This makes it, overall, a food-deficit state with several areas and populations facing food-security problems in different parts of the year. A significant feature of Gujarat is its large variety of institutional experiments including a strong co-operative movement (20 percent of the country's non-credit co-operatives are located in Gujarat), and a large number of NGOs and informal groups. This make it one of the ideal areas to study for the impact of institutions on the households and the relationship with income-generation, poverty and food security.

Institutional Environment and Profile

The institutional survey indicated that there were 38 local institutions in the 4 villages. Table 1 shows that there were a greater number of institutions – 23, in the semi-arid district of Banaskantha, as compared to 15 institutions in the better endowed sub-humid district of Kheda. The number of institutions per village varied from 5 to 17, indicating considerable variation.

Table 1 : Number of Institutions Found	
	<i>Number</i>
<i>District</i>	
Banaskantha	23
Kheda	15
<i>Village</i>	
Malan	17
Rampurvadala	6
Malavad	10
Piparia	5

Table 2 indicates that of the 38 institutions, 23 were formal whereas 15 were informal. In terms of local kinds, 18 different types of institutions were identified. Some such as the Village Gram Panchayat and the Village Cooperative Milk Producers' Society were found in all the villages, whereas others such as the Savings Group and the Labour

Group were not found in all of them. Others such as the oil-seeds cooperative were found only in one.

Table 2: Kinds of Institutions	
<i>Type of Institutions</i>	
Formal	23
Informal	15
<i>Locally identified kinds:</i>	
1. Madrasas (Muslim)	3
2. Village Service Co-operative Society	3
3. Village Co-op. Milk Producer's Society	4
4. Cattle rearing group	2
5. Bachat Mandal (Savings group)	3
6. Shakti Raslila Mandal	1
7. Community Mandal	4
8. Labour groups	3
9. Mahila (Women) Mandal	2
10. Youth Mandal	4
11. Village Gram Panchayat	4
12. Tirbandha Kelavni Mandal	1
13. Co-op. Bank	1
14. Fair Price Shop	2
15. Nationalised Bank	1
16. Oil Seeds Co-op. Society	1
17. Community Punch	2
18. Kelavani Mandal	1

Household Profile

A few features of the household survey are given in the tables below. Table 3 shows that a substantial percentage of the population in the households surveyed were illiterate (45.4 percent). Table 4 shows that though the household heads had many different occupations, 36.7 percent were into farming and 45.0 percent were agricultural labour. This indicates a huge dependence on agriculture for incomes and livelihood.

Table 3 : Literacy of Total Population above 12 years				
<i>(Percent)</i>				
<i>S.No.</i>	<i>Education</i>	<i>Banaskantha</i>	<i>Kheda</i>	<i>Total</i>
1	Illiterate	59.8	31.2	45.4
2	Literate	40.2	68.8	54.6
	Total	100.0	100.0	100.0

Table 4: Main Occupation of Head of the Household	
<i>Occupation</i>	<i>Percentage</i>
Farming	36.7
Agricultural Labour	45.0
Service	5.8
Blacksmith	0.8
Carpenter	0.8
Mason	1.7
Diamond Work	0.8
Shopkeeper/Trader	2.5
Hair Cutting	0.8
Driver	2.5
Domestic Work	0.8
Vegetable Hawker	1.7

Table 5 indicates the status on land distribution. It indicates that landless households form a substantial percentage (35-40 percent), and around 30 percent are marginal, having less than 2.5 acres of land.

Table 6 gives some information on household membership in institutions (institutions 1-10, Table 2). It indicates that 23.5 percent are members in at least one institution, and 19.1 percent are members in two. 77 percent of the members are men and 23 percent are women. 1.6 percent indicate that they are committee members. Participation in meetings appears to be reasonably high with only 8.7 percent not attending any meeting and 71 percent attending at least 1 or 2.

Table 5 : Distribution of Households on Land Owned		
	<i>(Percentage)</i>	
<i>Status</i>	<i>1990/91</i>	<i>1997/98</i>
No Land	37.5	35.8
Marginal (>0 to 2.5 acres)	27.5	30.0
Small (2.5 to 5.00 acres)	18.3	16.7
Medium (5.01 to 10.00 acres)	13.4	15.0
Large (Above 10 acres)	3.3	2.5
All	100.0	100.0

Table 6 : Membership	
<i>Description</i>	<i>Percentage</i>
Membership	
1 Institution	23.50
2 Institutions	19.10
3 Institutions	12.00
4 Institutions	0.50
Membership by Gender in Institutions	
Male	77.00
Female	23.00
Role in Institutions	
Just a Member	98.40
Committee Member	1.60
Members Attending the Meetings in a Year	
Not attending at all	8.70
1-2 meetings	71.00
3-4 meetings	12.60
5-6 meetings	2.20
Many	5.50

Institutions in Relation to Household Welfare

Household incomes may be determined by a variety of features of the household. Even if one wants to find the effect of institutions on household incomes or welfare, it is important to build-in most of the determinants so that the impact of institutions can be properly assessed. In the case of rural households in India, these determinants could include land, capital assets (productive-other than land), labour, as well as others such as education and institutional membership. It is hypothesized that in the crosssection, rural household income could be a function of the following:

$$Y = f(A, K, L, E, I)$$

Where:

Y = Total Household Income (or other measures such as total capital asset gain over time)

A = Land Owned (including type)

K = Capital Assets – productive, other than land

E = Education level

I = Institutional membership

A major difference in the land asset in India is whether it is unirrigated or irrigated, because unirrigated and irrigated lands are vastly different in their productive capacity and technology use. They need separation. Capital other than land includes farm and livestock assets. Education has different levels from illiteracy to higher education. Institutions are represented by institutional membership and this can be in different kinds of institutions (though non-members can also sometimes benefit). The following 5 institutions with specific and appreciable membership in the sample are being included here: Village Service Cooperative (Farm Credit and Inputs), Village Dairy (Milk Producers') Cooperative, Savings Group (Micro-credit), Village Community Association, and Labour Group.

Based on these, the following function was defined for estimation:

$$Y_i = f (X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11})$$

Where:

Y_i = (1) Gross total household income, (2) Change in total household assets, (3) Change in non-land household assets. (Change between 1990/91 and 1997/98).

X_1 = Unirrigated land owned

X_2 = Irrigated land owned

X_3 = Total value of all farming assets other than land

X_4 = Family labour force (13-60 y)

X_5 = Education level

X_6 = District dummy

X_7 = Membership of service cooperative (mainly farm credit and inputs)

X_8 = Membership of dairy cooperative

X_9 = Membership of savings (micro-credit) group

X_{10} = Membership of village community association

X_{11} = Membership of labour group (labour contracts)

(All membership variables are coded: 1=member, 0=not a member)

(see Appendix for details)

Results on Institutions to Household Welfare Relationship

The results of the functions estimated through OLS regression analysis are given in Table 7. Estimation is done for the full sample, as well as for the sample below median household income – following an approach seen in Grootaert and Narayan (2001).

Table- 7 : OLS regression results on determinants of household income and asset increase

Eq. No.	Depend. Var.	Independent Variables												R ²	N	
		Constant	x ₁	x ₂	x ₃	x ₄	x ₅	x ₆	x ₇	x ₈	x ₉	x ₁₀	x ₁₁			
Full Sample																
1	y ₁	Coeff.	-5606.2	486.94	10738.0	0.18004	2905.5	3968.9	1929.1	-8927.0	5198.5	26458.0	4150.3	-6926.9	0.871	120
		t-stat.	-0.660	0.239	9.862	2.146	2.353	2.846	0.292	-1.259	0.883	2.227	0.601	-0.815		
		Signf.			***	**	**	***				**				
2	y ₂	Coeff.	-4132.5	1092.9	3936.6	0.97648	4391.4	6444.8	-17444	1100.3	-4460.8	22340.0	-33728.0	-11709.0	0.708	120
		t-stat.	-0.217	0.240	1.616	5.204	1.589	2.066	-1.180	0.069	-0.338	0.840	-2.184	-0.616		
		Signf.				***		**					**			
3	y ₃	Coeff.	-3474.6	1816.1	-1130.7	0.75106	1697.0	6211.5	-3079.4	-2827.2	-5907.2	29924.0	-11925.0	-12953	0.715	120
		t-stat.	-0.337	0.735	-0.856	7.384	1.133	3.673	-0.384	-0.329	-0.827	2.077	-1.424	-1.257		
		Signf.				***		***				**				
Sample below median household income																
4	y ₁	Coeff.	5359.5	658.42	-1754.0	0.0762	1992.9	1235.0	-77.113	-3052.9	2162.6	-1694.1	2919.6	-2183.5	0.465	60
		t-stat.	1.990	0.730	-1.638	0.617	4.845	2.526	-0.038	-0.993	1.006	-0.391	1.224	-0.976		
		Signf.	**				***	**								
5	y ₂	Coeff.	707.46	13417.0	-2953.1	-0.1536	1554.6	6194.9	-19593.0	-25371.0	20868.0	-21368.0	-6871.5	-52.39.5	0.336	60
		t-stat.	0.053	3.003	-0.557	-0.251	0.763	2.559	-1.966	-1.666	1.960	-0.995	-0.582	0.473		
		Signf.		***				**	*		**					
6	y ₃	Coeff.	96.181	6831.5	-647.84	0.6523	617.17	5940.9	-14180.0	-15037.0	5854.9	-20246.0	-51.638	-5090.3	0.340	60
		t-stat.	0.010	2.154	-0.172	1.501	0.427	3.458	-2.005	-1.391	0.775	-1.340	-0.006	-0.647		
		Signf.		**				***	**							
Note: Statistical Significance: *** Significant at 99%, ** Significant at 95%, * Significant at 90%																

The results of the full sample function for household income indicate that whereas determinants such as irrigated land, capital, labour and education are strongly associated, institutional variables such as savings/micro-credit group membership also show a strong association, indicating the importance of institutions. The capital asset gain equations also show strong association with capital and education but also with institutional membership in savings/micro-credit group. It may be mentioned that these are associations and would be difficult to interpret if the membership in institutions itself skewed, such as towards higher income groups. This pattern is checked below and not found to be of concern.

The equations results for the below median income group segment are also given in the Table. The household income equation indicates that labour force and education show strong associations but some institutions such as dairy cooperative and community association are also associated. The capital asset increase equations reveal a significant association with the dairy cooperative membership. These findings indicate the development impact of institutions in the area. The results show that institutions matter and some institutions matter even more for the poorer population.

Institutional Membership and Household Characteristics

A criticism sometimes reported about such analysis is that the membership in some institutions is itself sometimes related household economic status (e.g. better-off households) and in the case of India, often to the higher caste of households. Thus, the results could be biased. It is important, therefore, to examine the relationship of institutional membership to such household characteristics. This is formulated as follows:

$$M_i = f(z_1, z_2, z_3, z_4, z_5, z_6)$$

Where:

M_i = membership in institutions i ($i = 1$ to 5 in the same order as above), coded as
 1 =member, 0 =non-member

- z₁ = Unirrigated land owned
- z₂ = Irrigated land owned
- z₃ = Total value of all farming assets other than land
- z₄ = Family labour force (13-60 y)
- z₅ = Education level
- z₆ = Caste (castes are coded as: 1=lower caste, 2=lower-middle caste, 3=higher caste)
(see Appendix for details)

Since the dependant variable is binary, the function is be estimated by a Logit regression procedure. The results are given in Table 8. Irrigated land, which is one of the most valuable assets, is found to have in every case a non-significant association with membership. This indicates that the membership is not related to the high asset ownership (rich). Further, the other two major assets, unirrigated land and other capital, are non-significant in most cases, also indicating that membership is not confined to the wealthy. One exceptions is service cooperative for unirrigated land, perhaps because the cooperative requires some land ownership, and another is the dairy cooperative for other farm capital, perhaps because this cooperative requires livestock ownership – which is included in other farm capital. However, the association with caste is negative in every case, and strongly negative in a few cases, indicating that caste is not a major barrier and is often inversely related to membership. These results indicate that institutions include poorer and lower caste households, often in greater number, and since they benefit them, they could benefit them more, indicating a stronger developmental role.

Subjective Opinions about the Impact of Local Institutions

Given below in Table 9 is an analysis of the direct responses from the households regarding the impact of institutions in the villages. 57 percent indicate that institutions have a positive to highly positive impact, 43 percent indicate no impact, and none indicate negative impact. 70 to 90 percent indicate that there is no specific benefit to any religious, caste or other such group. Benefits to upper and middle income groups is

Table- 8 : Logit regression results on determinants of institutional membership											
Eq. No.	Depend. Var.		Con-stant	Independent Variables						Chi-sq	N
				z ₁	z ₂	z ₃	z ₄	z ₅	z ₆		
1	m ₁	Coeff.		0.6072	-0.0510	0.0981	0.0297	-0.3587	-0.1366	32.9	120
		t-stat.		2.680	-0.438	1.098	0.327	-2.684	-0.586		
		Signf.		***				***			
2	m ₂	Coeff.		-0.1938	0.1130	0.0900	-0.1016	-0.1203	-0.2955	58.0	120
		t-stat.		-0.957	0.632	3.711	-0.961	-0.857	-1.131		
		Signf.				***					
3	m ₃	Coeff.		-0.5499	-0.1047	0.0126	-0.3975	0.1692	-1.1366	10.9	120
		t-stat.		-0.803	-0.300	0.485	-1.507	0.770	-1.992		
		Signf.							**		
4	m ₄	Coeff.		0.8275	0.01650	-0.0937	0.0652	-0.2858	-0.8139	40.5	120
		t-stat.		3.202	0.083	-0.832	0.638	-1.762	-2.521		
		Signf.		***				*	**		
5	m ₅	Coeff.		-0.5913	-0.5964	0.0545	0.1153	0.1736	-1.697	14.7	120
		t-stat.		-1.146	-0.883	0.163	0.850	0.994	-3.014		
		Signf.							***		

Note: Statistical Significance: *** Significant at 99%, ** Significant at 95%, * Significant at 90%

indicated by relatively few, whereas benefit to small/marginal farmers, landless, and labour/ wage earners is indicated by substantial numbers.

Table 9 : Opinion of the Households on Impact of Institutions towards the Economic Development of the Village					
	Impact of the Institution				
	(percent)				
	Substantially positive	Positive	No impact	Negative	Substantially negative
1) Village as a whole	16.20	40.50	43.20	0.00	0.00
2) Any particular religious group	5.40	8.10	86.50	0.00	0.00
3) Any particular caste	8.10	21.60	70.30	0.00	0.00
4) Any other group	2.70	8.10	89.20	0.00	0.00
5) Women	10.80	40.50	48.60	0.00	0.00
6) Poor	8.10	51.40	40.50	0.00	0.00
7) Middle Income	2.70	45.90	51.40	0.00	0.00
8) Upper Income	0.00	32.40	67.60	0.00	0.00
9) Large/medium farmers	2.70	32.40	64.90	0.00	0.00
10) Small/marginal farmers	5.40	54.10	40.50	0.00	0.00
11) Landless	10.80	43.20	45.90	0.00	0.00
12) Labour/wage earners	8.10	51.40	40.50	0.00	0.00
13) Livestock owners	8.10	40.50	51.40	0.00	0.00
14) Tribals	0.00	29.70	70.30	0.00	0.00
15) Scheduled Castes	2.70	59.50	37.80	0.00	0.00
16) Youth	0.00	32.40	67.60	0.00	0.00

Conclusions

The paper has sought to examine the impact of local institutions on development and poverty in the rural areas of India based on primary survey work in western India. Recent revival of interest in the role of institutions on the path of economic development, and findings on their possible significant impact seems to indicate an important role of both “macro” and “micro” institutions such as local institutions.

The study finds a substantial number of both formal and informal local institutions in the surveyed villages, and a substantial degree of interaction of the households with the institutions. These include formal and informal local institutions such as service cooperatives, dairy cooperatives, savings groups, community associations and labour groups. The study finds that apart from standard determinants of land, capital, labour and education, local institutions appear to play a significant role in explaining the variation in the household incomes, and the gain in capital assets over time. These include particularly the savings/ micro-credit groups, and the dairy cooperatives. Further, it is found that the membership in these institutions is not related to high asset levels or high caste – is often inversely so. This indicates a stronger developmental role. Direct responses of the households also supports these findings on the nature, impact and the beneficial role of local institutions. The findings confirm that institutions matter, and local institutions can and do seem to play a significant role in helping economic development in the rural areas, including especially for the lower income groups.

Appendix: Variable-Data Notes

Gross total family income=gross total household income from all sources (Rs.); Total household assets=includes all farm and household/consumer assets (Rs.); Land unirrigated/ irrigated (acres); Total value of all farming assets other than land=farm and livestock assets excluding land (Rs.); Family labour force=all family members in 13-60 year age range; Education level=different levels from illiterate=1 to doctorate=10; District dummy: Banaskantha=1, Kheda=0; Institutional membership: member=1, not a member=0; Castes: identified, grouped and coded as: 1=lower caste, 2=lower-middle caste, 3=higher caste.

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