

“Municipal finance analysis: The case study of Gujarat (India)”

AUTHORS	Forum Dave
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Forum Dave, Dr., Assistant Professor,
Sardar Patel Institute of Economic and
Social Research, Ahmedabad, India.



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Forum Dave (India)

MUNICIPAL FINANCE ANALYSIS: THE CASE STUDY OF GUJARAT (INDIA)

Abstract

This paper theoretically underpins the idea of greater involvement of local governments in the overall development of India explained through the theory of Fiscal Federalism. The theory outlines the dynamics of decentralization of power and functions through a multi-layered governance system leading to a new structure and added functions, finance, and accountability to local government. The paper also provides an overview of the increasing role of urban local governments in India and investigates whether the Urban Local Bodies (ULBs) of Gujarat – a state in India, are efficient to perform the functions and responsibilities assigned to them by the 74th Constitutional Amendment Act (CAA). It scrutinizes the financial health of local governments in the urban regions of India. The results based on the application of MANOVA indicate that the 74th CAA empowered ULBs with a strong economic base that these ULBs are capable of mobilizing their own resources. This means that smaller municipalities must develop and convergence must be supported by a proportionate level of grants. This will ensure that with the development of social infrastructure, economic activities will increase, and, as a result, the conversion will occur.

Keywords

decentralization, urbanized Gujarat, Urban Local Government/Bodies (ULBs), municipal finance

JEL Classification

H11, H29, H41, H71, H72

INTRODUCTION

The theoretical justification for a multi-layered government in a diverse country like India emanates from the theory of Fiscal Federalism, which offers economic justification for multi-leveled government institutions. It argues that unless there is no significant cost difference of provision for goods and services to communities, it is much better for the local government to secure the provision of local goods and services to its citizens (Dave, 2010). The theory of fiscal federalism also makes use of cost-benefit analysis in the allocation of various functions to different levels of government.

According to this framework, a federal structure with a multi-level government, in which the powers and functions are evaluated at each level, is considered the best suited and optimal form of arrangement (Rao & Bird, 2010). The rationale behind such an argument is that this arrangement reaps the benefits of the advantages of decentralization. With such an arrangement, local issues could be resolved locally, with significant people's participation, which is a major plank of any democratic society. Thus, the rationale for local level government both urban and rural has a strong foundation in theory and practice.

The revenue resource collection should be based on 'spatial mobility'. That means the sources that are immobile, such as property tax, should go to the local government (Kamer, 1983) and those having a mobile

source base must go to the State and Central government for efficient administration and scrutiny. A solution to this problem is offered by the 74th Constitutional Amendment Act (CAA) of India (Government of India, 1992). This amendment act provides a direction and lays down a framework to strengthen the local government in all aspects. The local government may provide innovative ways and means in the production and provision of public goods. They may have the local solutions for local problems.

In this backdrop, the research paper investigates whether local governments have become efficient to perform the functions and responsibilities assigned to them in Indian amendment based on decentralization. What are the scrutinizing pattern followed by local level government and how self-sustaining they are?

1. LITERATURE REVIEW

Historical evidence suggests that the urbanization process is inevitable and universal. It is a progressive concentration of the population in urban units. Datta (2006) noted that urbanization is a process to switch from a spread-out pattern of human settlements to one of concentration in urban centers. He mentions three stages in the process of urbanization:

- 1) Stage one refers to a rural traditional society with predominance in agriculture and a dispersed pattern of settlements.
- 2) Stage two refers to the acceleration stage where basic restructuring of the economy and investments in social overhead capitals, including transportation and communication takes place. Here the proportion of the urban population gradually increases from 25% to 40%, 50%, 60%, and so on, and the dependence on the primary sector dwindles.
- 3) Stage three (terminal stage) – refers to the stage where the urban population exceeds 70% or more. At this stage, the level of urbanization remains more or less the same or constant. Here the rates of growth of the urban population and total population become the same at this terminal stage.

Urbanization is an irreversible process (Rao, 2008), as reflected in the case of India. India is now moving towards the third stage of urbanization, while the majority of the developed nations are into the third stage of urbanization.

In the modern era, according to an Indian definition, the following criteria were adopted for

treating a place as urban in the 2011 census (GOI, 2011):

- 1) All statutory towns, i.e. all places with municipal corporations, municipal board, cantonment board, notified area, etc.
- 2) Census towns, which are non-statutory and are rural areas but satisfy the following criteria:
 - a) minimum population of 5000;
 - b) at least 75 percent of the male working population engaged in non-agriculture activities; and
 - c) a density of population of at least 400 persons per sq. km.

According to Mathur (2007), the 74th Constitutional Amendment Act (CAA) 1992 on Municipalities, is a path-breaking effort in achieving democratic decentralization in India. Before this, the local governments in India were organized based on the 'ultra vires' principle [beyond the powers or authority granted by law] and the state governments were free to extend or control the functional sphere through executive decisions without an amendment to the legislative provisions. As per the 12th Schedule of Article 243W of 74th CAA, Urban Local Body should provide certain services and is entitled to certain powers (Mathur, 2007). The services include (74th CAA, GOI, 1992):

- Urban planning;
- Planning for economic and social development;
- Construction of roads and bridges and fire service;

- Water supply for various purpose;
- Services like public health, sanitation, etc.

The other services are the protection of the environment, urban forestry, and promotion of ecological aspects; safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded; slum improvement and up-gradation and urban poverty alleviation. Urban Local Bodies (ULBs) also provide urban facilities such as parks, gardens and playgrounds, burials and burial grounds; cremation grounds and electric crematorium, cattle pounds, prevention, vital statistics including registration of births and deaths. It also provides public amenities.

However, the 74th Amendment Act provisions are not applied to certain Scheduled Areas and the Tribal Areas of India for example Meghalaya and Mizoram. Yet, as noted by Mathur, in these states, traditional municipal institutions (such as municipal board, notified area committee, etc.) are functioning for the governance of urban areas. That said, due to diversity in geography and culture, the effect of legalizing the third layer of the local urban institute is diverse. However, with rapid urbanization, Urban Local Bodies (ULBs) plays a significant role in India's development (Bajwa, 2008). These institutions are the instrument of encouraging local initiatives and harnessing them to creative channels (Singh, 1997).

Baxi (2019) noted that the economic contribution, almost 60 percent of India's GDP, comes from urban areas generating more than 75 % of the non-agriculture employment (Ministry of Housing and Urban Poverty Alleviation, GoI, 2011). The urban cities are the hub of attracting investment in various sectors and providing a wider market base and are considered as an engine of economic growth. This poses greater challenges for urban local government, particularly in terms of two important aspects, namely, to ensure efficient urban planning and efficient financial management. Baxi highlighted the eight municipal corporations of Gujarat state and concluded that adequate fiscal power must be provided to municipal corporations to plan their local economic growth and development.

Further, Ghuman and Mehta (2010) noted that the majority of the Urban Local Bodies across the country are facing severe financial hardships and, hence, fail to provide adequate and quality public services, including urban infrastructure to their citizens. Moreover, water and sewerage – basic services in India – are characterized by inadequate access, low level of services, and low customer satisfaction (Vaidya, 2003).

To avoid this, the case study of Municipal Council Panchkula has been taken up by Ghuman and Mehta. They have taken the sample of 45 citizens from urban areas, 40 from villages (which fall in the jurisdiction of the council), and 40 from slums/labor economies. The survey indicated that nearly 95 percent of the respondents were dissatisfied with the quality of sanitation services and the contracted-out services are more accessible to the urban population followed by the rural population. Further, it was noted that local authorities succeed in getting the work done by the contractors at the lowest costs, but the citizens suffer both on the account of inadequate supply of public services and their quality as urban local governments normally go to passive mode once the municipal services are contracted out. Hence, Ghuman and Mehta recommended that the State Governments should provide adequate funds to local authorities. Alternatively, commercially viable projects can be developed (Vaida, 2003) by ULBs. However, Prest (1960) suggested to bifurcate the activities, which can be carried out by government and business sectors.

Rao and Bird (2010) noted that India's cities are large, economically important, and growing. However, neither urban infrastructure nor the level of urban public services is adequate for current needs. Rao and Bird suggest:

- The existing assignment system requires clarity between various agencies delivering various services.
- The largest cities should accord an independent status similar to the States in part to insulate them from localized and parochial biases.
- The governance system in cities should promote cosmopolitanism and accommodative

policies to promote healthy social and economic interactions.

- The clarity is required regarding the existing definition of the role and functions of various institutions.
- The local level governance requires reforms for city finance.
- The transfers from the central and state to urban local governments require reforms.

Development of Rurban centers with basic urban amenities (in rural regions) can also address the problem posed by urbanization (Government of Gujarat, 2011). Further, Thakur (2006) noted that the financial health of an urban local body (ULB) is indicated by a set of closely interrelated factors and not merely on income-expenditure balance. Urban areas are known to contribute more than sixty percent of national income. Yet in terms of resources, ULBs raise only 0.63 percent of national income (GDP) from its typical public finance pattern to talk about own income of any municipality resources for the year 2001–2002.

Another source is the grant. Municipal corporations receive grants mostly from the state government. It has several roles, foremost of them is to bridge the gap, since it is unlikely for the revenue-raising capacity of municipalities to perfectly match their expenditure needs. Thakur further observed drawbacks in the budgeting system of municipalities, as budget documents do not contain physical or performance targets to be achieved through budget allocation. Hence no achievements can be claimed by way of this budgetary expenditure. Hence, it is impossible to judge the financial health of municipalities.

Urbanization in developing countries has a rich and long history (Raju, 1997). The first phase of urbanization in the Indian sub-continent is associated with the Indus valley civilization, i.e. the present-day state of Gujarat (Bhattacharya, 1979) and part of Pakistan. Gujarat, situated on the west coast of India, is the seventh-largest state in the country in terms of area (1, 92022 sq. km) and tenth in terms of population (6.03 crores as per 2011 census). It was observed that Gujarat is

a highly urbanized state (Bhatt, 1984) and has an increasing trend. According to the 2011 census (GOI, 2011), the Gujarat state is urbanized with 42.1 percent (as against 37.35 percent in 2001). As administrative bodies such as urban local government, urban development, municipality, etc. support the process of urbanization, the role of urban local bodies is very important. Today the state has 159 municipalities and eight municipal corporations (as per the Bombay Municipal Act, 1949 and Gujarat Municipal Act, 1963). All the activities performed by these authorities are dependent on their finances. Therefore, the focus of this study is to examine the finances of (ULBs) Urban Local Bodies in Gujarat.

The literature review shows that Urban Local Bodies (ULBs) now have legal status to grow independently. This research study tried to examine the effectiveness of this decentralization. Further, it is essential to examine that:

- a) the average income and expenditure of developed and developing urban local bodies (ULBs) are similar; and
- b) the regional variation does not have any impact on the income and expenditure of ULBs.

2. METHODS

The analysis of the finances of Urban Local Bodies in Gujarat has been undertaken from the historical perspective. Gujarat is a heterogeneous state in terms of economic and geographical parameters. This spatial study was conducted to analyze the finances of selected urban local bodies in Gujarat. The causal analysis was used to investigate the relationship between the financial position of municipalities concerning the total population as well as total income. Gujarat state is divided into five major zones according to the geographical classifications (see Table 1).

The criteria of developed and less developed municipalities are adopted based on the classification of municipalities according to the Indian Constitution. Two zones namely, Saurashtra and North Gujarat (NG), are taken as samples. Saurashtra has four municipal corporations, while North Gujarat has none. It is postulated that

Table 1. Selected zones and districts of Gujarat

Source: Gujarat State Portal.

Zone	District
Central	Ahmedabad, Kheda, Anand
North	Banaskantha, Patan, Mehsana, Sabarkantha, Gandhinagar
South	Godhra, Dahod, Bharuch, Narmada, Surat, Vadodara, Dang, Valsad, Navasari, Tapi
Saurashtra	Jamnagar, Rajkot, Porbandar, Junagadh, Amreli, Bhavnagar, Surendranagar

Table 2. Selected municipalities and their speciality

Municipality	Class of municipality	Population	Resides in the district	Specialty
Jetpur	I	1.18	Rajkot	Industrial towns, fabric and exports of khanga and kitenge
Vanthali	IV	0.14	Junagadh	Ghatapallava style step well, tourism
Patan	I	1.25	Patan	Textile and mining industry, tourism
Chanasama	IV	0.15	Patan	Gujarat industrial development corporation

Note: Population is in lakhs, according to the 2011 census.

Municipal Corporations with large populations, larger resources, both physical and financial, and wider revenue-based help attain the benefits of economies of scale. Four municipalities were selected as shown in Table 2.

In this research paper, the multivariate analysis is also used to check the following hypotheses:

- The average income (revenue and capital) of developed municipalities is similar to that of developing municipalities.
- The average expenditure (revenue and capital) of developed municipalities is similar to that of developed municipalities.
- There is no difference between the average capital expenditure of North Gujarat and Saurashtra municipalities.
- There is no difference between the average revenue expenditure of North Gujarat and Saurashtra municipalities.

Financial analysis of developed and developing municipalities:

$$Y_{ij}^{RE} + Y_{ij}^{CE} = \beta_{ij} X_i + \beta_{ij} Z_j + \varepsilon_{ij}, \quad (1)$$

$$Y_{ij}^{RY} + Y_{ij}^{CY} = \beta_{ij} X_i + \beta_{ij} Z_j + \varepsilon_{ij}. \quad (2)$$

Financial analysis of north Gujarat and Saurashtra region (of Gujarat):

$$Y_{id}^{RE} + Y_{id}^{CE} = \beta_{id} X_i + \beta_{id} Z_j + \varepsilon_{ij}, \quad (3)$$

where

$Y_{ij}^{RE} = Y_{ij}^d + Y_{ij}^{di}$, where Y_{ij}^{RE} is the sum of revenue expenditure for developed municipalities Y_{ij}^d and for developing municipalities Y_{ij}^{di} ;

$Y_{ij}^{CE} = Y_{ij}^d + Y_{ij}^{di}$, where Y_{ij}^{CE} is the sum of capital expenditure for developed municipalities Y_{ij}^d and developing municipalities Y_{ij}^{di} ;

$Y_{ij}^{RI} = Y_{ij}^d + Y_{ij}^{di}$, where Y_{ij}^{RI} is the sum of revenue income in developed municipalities Y_{ij}^d and developing municipalities Y_{ij}^{di} ;

$Y_{ij}^{CI} = Y_{ij}^d + Y_{ij}^{di}$, where Y_{ij}^{CI} is the sum of capital income in developed municipalities Y_{ij}^d and developing municipalities Y_{ij}^{di} ;

$Y_{ij}^{RE} = Y_{id}^{NG} + Y_{id}^S$, where Y_{ij}^{RE} is the sum of revenue expenditure in north Gujarat Y_{id}^{NG} and Saurashtra municipalities Y_{id}^S ;

$Y_{ij}^{CE} = Y_{id}^{NG} + Y_{id}^S$, where Y_{ij}^{CE} is the sum of capital expenditure in north Gujarat Y_{id}^{NG} and Saurashtra municipalities Y_{id}^S ;

i = five-year period (from 2005–2006 to 2009–2010), j = zone (1= north Gujarat region, 2= Saurashtra region), d = devolvement criteria (developed and developing municipalities), β_{ij} = covariance constant, X_i = developed municipalities of i^{th} year, z_i = developing municipalities of i^{th} year,

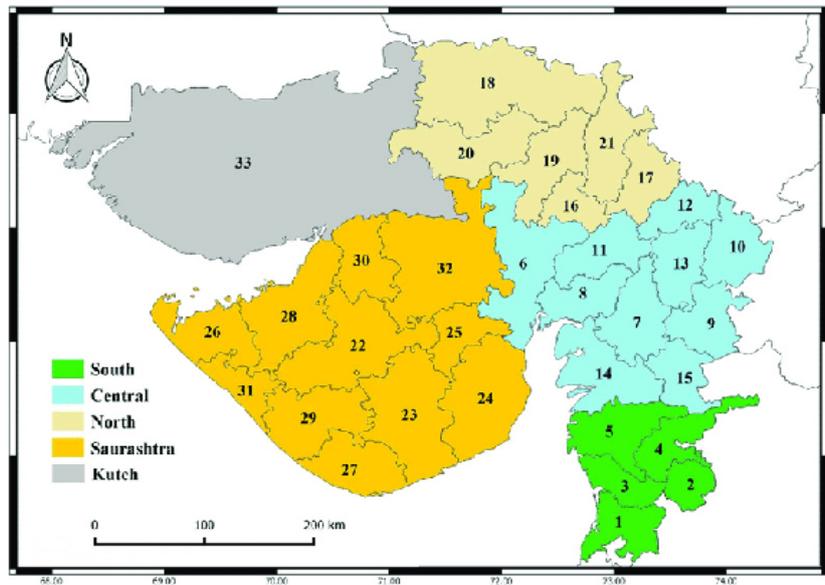


Figure 1. Total income

Y_{ij}^{RE} = sum of revenue expenditure, Y_{ij}^{CE} = sum of capital expenditure, Y_{ij}^d = developed municipalities, Y_{ij}^{di} = developing municipalities, Y_{id}^{NG} = north Gujarat, Y_{id}^S = Saurashtra.

The analysis is based on the secondary data obtained mainly from “yearly financial accounts” of municipalities (ULBs). The local government budget reflects the overall health of the local economy and is the place where public scrutiny is focused. The period selected was 2005–2006 to 2009–2010. The year 2005 was declared as “The Urban Year” by the Government of Gujarat. The Government provided special ‘Urban Year’ grants for urban infrastructure and services to various urban local bodies¹. To carry out a comparative analysis between two zones, multivariate analysis is being used.

3. RESULTS AND DISCUSSION

To understand the financial health of urban local bodies known as municipalities, the trend of income and expenditure can be examined. Urban Local Bodies in India are divided into two categories (based on criteria of population namely) such as Municipalities and Municipal Corporations.

The pattern of expenditure of urban local bodies reveals where its priorities lie. There is also a detailed analysis of the trend in expenditure for four municipalities. Total expenditure is divided into revenue and capital expenditure (Figures 2 and 3).

The capital expenditure mainly consists of the grant – tied or untied. These funds depend on changing policies of central governments. Hence, there is no clear trend for selected years. However, Jetpur indicates sudden rise in year 2009–2010 due to capital grant under urban infrastructure development.

The capital expenditure of any urban local body consists only of the expenditure incurred from the capital grants provided by a higher level of government. The expenditure grants are divided into revenue grants and capital grants. The cost to perform various functions by urban local institutions requires larger funding, hence, a central and state government is required to support them through the transfer of funds and grants. The total revenue expenditure is divided into three major heads, namely tied, untied, and special (for understanding it is presented as: administrative, social, socio-economical and economical). The grant of tied revenues is around 10 percent for developed municipalities and 23 percent for developing mu-

¹ The implementation and its effects can be observed only in later years. Hence, the next five years have (2005–2006 to 2009–2010) been taken to understand the impact of allocated funds on the urban regions.

Source: Table A2 of the Appendix.

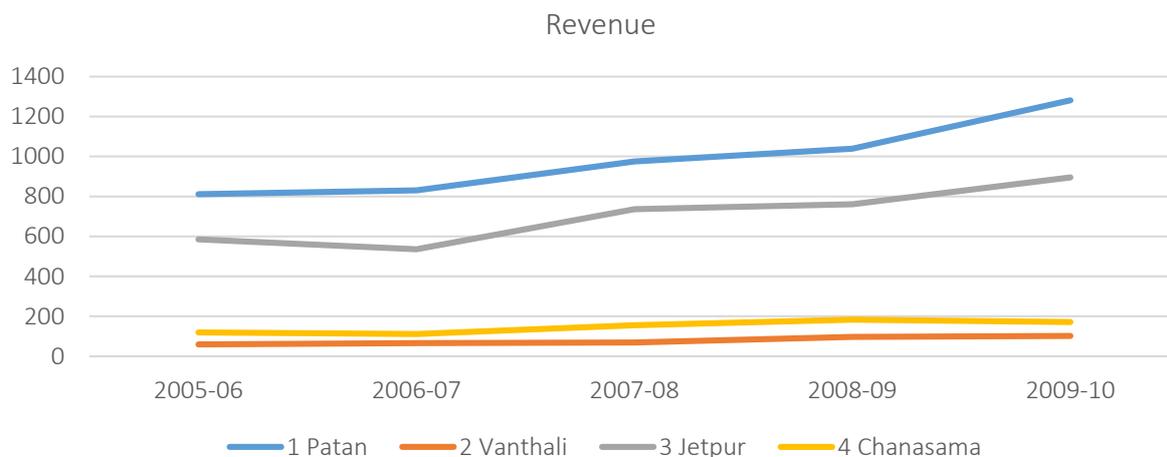


Figure 2. Revenue expenditure across municipalities in Gujarat

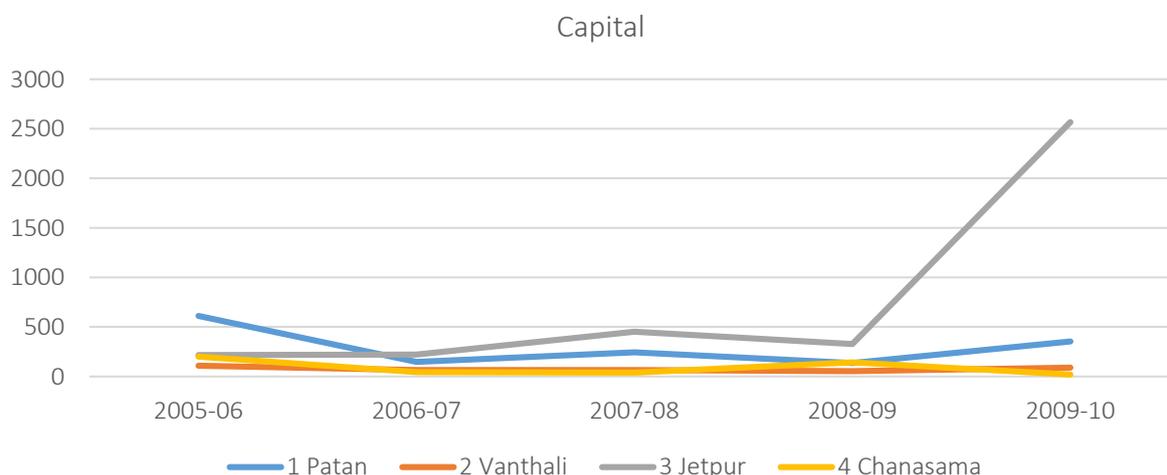


Figure 3. Capital expenditure across municipalities in Gujarat

municipalities. This indicates developed municipalities can cover their daily expenses from sources of revenue receipts. However, in case of major infrastructure development, expenses are incurred from capital account.

Table A1 of the Appendix provides details of total expenditure, which includes expenditure grants too. The development of infrastructure requires a capital grant. It is found that developed municipalities generally spend more on the construction of infrastructure (Table A1 of the Appendix).

In case of revenue expenditure, it was observed that ULBs have certain revenue generation

streams based on economic activities such as a dairy business, a shop for cements, bolt and nut shops, etc. The purpose is to earn receipt, however, the cost, which was incurred for the same, is considered under the heading of the economic expenditure.

Out of the selected municipalities, the municipality of Patan spent more than 46 percent on infrastructure such as the construction of public amenities, i.e. public garden, hall, etc. (social expenditure), while Jetpur spent more than 29 percent of its expenditure on the development of urban areas, including basic amenities like the development of fire station, building a water tank, etc. (socio-economical). The developing muni-

Table 3. Distribution of revenue expenditure

Source: Budgets of various municipalities, 2005–2006 to 2009–2010.

Municipality/ Years	Administrative	As % to total expenditure	Social	As % to total expenditure	Socio- Economic	As % to total expenditure	Economic	As % to total expenditure
Chanasma								
2005–2006	210,4401	6.00	1,863,929	5.3	1,555,160	4.44	626,353	17.87
2006–2007	1,441,982	7.25	1,679,411	8.4	2,060,659	10.36	562,845.04	28.3
2007–2008	1,557,143	5.44	2,571,848	9.0	1,996,388	6.97	10,107,539	35.29
2008–2009	2,551,746	6.88	3,055,890	8.2	2,628,696	7.08	10,031,800	27.04
2009–2010	1,405,695	5.83	2,149,911	8.9	2,471,096	10.25	11,033,356	45.77
Patan								
2005–2006	13,089,166	7.24	9,395,345	5.2	54,851,294	30.33	3,080,857	1.7
2006–2007	14,437,567	11.93	7,486,055	6.2	57,992,319	47.90	2,608,807	2.15
2007–2008	14,320,845	9.97	9,318,269	6.5	70,532,444	49.08	2,758,772	1.92
2008–2009	14,292,929	10.86	7,014,774	5.3	78,507,339	59.63	3,147,442	2.39
2009–2010	18,946,882	10.26	8,843,860	4.8	96,061,218	52.04	2,881,573	1.56
Vanthali								
2005–2006	2,040,500	11.95	350,000	2.1	3,390,000	19.86	N.A	N.A
2006–2007	1,856,213	13.94	241,167	1.8	3,810,318	28.61	N.A	N.A
2007–2008	4,519,000	32.40	160,000	1.1	1,820,000	13.05	N.A	N.A
2008–2009	2,978,309	17.40	355,728	2.1	5,907,133	34.52	N.A	N.A
2009–2010	3,236,225	14.75	725,278	3.3	5,837,064	26.61	N.A	N.A
Jetpur								
2005–2006	9,904,201	9.78	10,187,184	10.1	38,223,411	37.76	N.A	N.A
2006–2007	8,517,531	9.07	7,646,908	8.1	36,992,829	39.40	N.A	N.A
2007–2008	10,669,733	6.95	8,411,676	5.5	53,470,149	34.82	N.A	N.A
2008–2009	10,265,741	7.97	8,220,215	6.4	56,758,582	44.06	N.A	N.A
2009–2010	10,166,513	2.64	9,756,026	2.5	67,075,396	17.40	N.A	N.A

Note: This table does not include capital expenditure and, therefore, the total shall not add up to 100; The revenue expenditure is indicated as a percentage of total expenditure. N.A. indicates data is not available.

palities like Chanasma and Vanthali spent more than 20% on infrastructure development.

The trend in expenditure pattern² shows the focus area of development by municipalities. In the case of developed municipalities, the center point is socio-economic development.

Hence, the local government of urbanized states such as Gujarat must focus on the development of infrastructure and services resulting in the highest allocation for the socio-economical sector. This does include essential goods like water and public construction works.

Appendix A (Table A1) provides the overall distribution of total expenditure, while the revenue expenditure has been presented in Table 3. In the

case of developed municipalities, such as Patan, the expenditure on water (SE) is around 20 percent, while Jetpur has the highest expenditure on solid-waste management (SE), followed by expenditure on water (SE) and streetlight (SE). In the case of developing municipalities such as Chanasma, the highest expenditure is on street lights, followed by water and solid-waste management. For Vanthali, the highest expenditure is on solid waste management and streetlights. Notably, Gujarat has a major urban region with zero-waste urban regions and the availability of potable water.

Moving further, the state government is termed as a welfare government; hence it is essential to perform functions that lead to positive externalities in society. Those functions are called 'social functions' in the municipal budget. The expend-

2 a) Total expenditure is divided into revenue expenditure and capital expenditure. Revenue expenditure (salary expenditure, water expenditure, cost on solid waste management, etc.) is further divided into various activities.
b) Categories such as administrative expenditure, social expenditure, economic expenditure, socio-economic expenditure, and revenue grants expenditure. Capital expenditure consists of only capital grant expenditure, etc., most of which is based on state government budget classification.

Table 4. Distribution of total income (in %)

Source: Budgets of various municipalities, 2005–2006 to 2009–2010.

Municipality/ Years	Own income	Grants	Others	Municipality/ Years	Own income	Grants	Others
Patan				Chanasama			
2005–2006	59.4	19.57	21.03	2005–2006	44.16	50.79	5.05
2006–2007	58.64	27.54	13.82	2006–2007	49.34	46.1	4.56
2007–2008	54.21	36.29	9.51	2007–2008	48.38	49.13	2.49
2008–2009	68.8	17.71	13.5	2008–2009	42.77	57.08	0.15
2009–2010	66.85	26.28	6.87	2009–2010	67.2	29.47	3.33
Jetpur				Vanthali			
2005–2006	17.29	60.5	22.21	2005–2006	13.5	83.6	2.9
2006–2007	17.61	68.85	13.54	2006–2007	39.52	55.61	4.86
2007–2008	14.13	70.85	15.02	2007–2008	35.65	61.41	2.94
2008–2009	24.78	57.8	17.42	2008–2009	36.78	55.43	7.79
2009–2010	13.76	71.39	14.86	2009–2010	71.2	19.47	9.33

iture on social function is hardly five percent of total expenditure in selected municipalities. In the case of developing municipalities, it is, by and large, in single-digit only. Oates (1972), in his book 'Fiscal Federalism', pointed out that the establishment of any layer of government itself incurs the cost, namely the cost of establishment and maintenance. Reflecting that the onerous expenditure, i.e. administrative expenditure of almost all municipalities, is around 10 percent of total expenditure. Although there is no specific trend, it is interesting to note that in the case of developed municipalities, Patan, with 42 percent, has the highest growth rate of administrative expenditure.

The revenue account consists of revenue receipts and capital receipts. Revenue receipts of municipalities include current (yearly) income from various sources such as own-income, revenue grants, others. The trend is depicted in Table A2 of Appendix. Moreover, the revenue account growth is overall positive for the developed municipality except for one year in the case of Patan. The growth rate (CAGR) for the developed municipalities such as Patan and Jetpur are 0.06, and 0.20, respectively. The developing municipalities also indicate promising growth rates. For example, Chanasama and Vanthali indicate overall growth, except for one year.

The capital income consists of mainly grant income, hence some variations in the trends are expected. For example, Jetpur has a negative growth rate for one year. The developing municipalities also have negative growth rates for at least two years. The income from grants is greater than the own income in all selected municipalities, developing

and developed. This indicates a reduction in the financial ability of the local bodies, since the dependency on the grants is higher (Table A2 of the Appendix).

Distribution of total revenue by own income and other income: Total revenue income is divided into income earned through own sources and income through other sources. Other sources of income in urban local bodies consist of loans, advances, deposits, and miscellaneous.

Own income of municipalities consists of tax income, non-tax income, and income from other miscellaneous sources such as town planning funds, auction of old furniture or storeroom items, vehicles, etc. The share of tax and non-tax income as a percentage of total own income is presented in Table A2 of the Appendix. In general, the developed municipalities of Patan indicate the share of tax income is great than non-tax income due to higher shares of property tax and water tax. However, in the case of Jetpur, the share of non-tax is higher compared to tax revenue due to a higher share of non-tax income like fees, including license fees, notice fees, property transfer fees, shop registration fees, etc. In the case of developing municipalities, except Vanthali, the major share of revenue comes from non-tax income. Vanthali has a major share of income from property tax; and, it was octroi too till the year 2006–2007. The major share in non-tax revenue income is from miscellaneous non-tax income in the case of Chanasama.

The developed municipalities received a major share of the grants in their capital accounts as

Table 5. Deficits in budget (Rs. in crores)

Source: Calculated from income and expenditure of various municipal budgets.

Municipality/ Years	TD	RD	KD	Municipality/ Years	TD	RD	KD
Patan				Chansama			
2005–2006	-1.07	2.31	-3.37	2005–2006	-1.27	-0.02	-1.23
2006–2007	0.99	-0.54	1.54	2006–2007	0.16	0.01	0.14
2007–2008	2.51	-0.32	2.79	2007–2008	0.21	-0.2	0.43
2008–2009	0.55	-0.02	0.56	2008–2009	-0.25	-0.25	-0.01
2009–10	0.88	0.11	0.77	2009–10	0.22	0.12	0.09
Jetpur				Vanthali			
2005–2006	0.12	-0.92	-4.97	2005–2006	0.01	-0.24	0.24
2006–2007	3.12	0.03	-2.55	2006–2007	0.008	-0.02	0.02
2007–2008	3.49	0.16	-4.74	2007–2008	-0.066	-0.13	0.24
2008–2009	3.41	0.64	2.77	2008–2009	0.908	-0.05	0.79
2009–10	-6.35	1.26	-7.6	2009–10	-0.54	0.21	-0.75

Note: TD = Total deficit, RD = Revenue deficit, CD = Capital deficit.

shown in Table A2 of Appendix. However, revenue grants contributed marginally to the total income of the selected municipalities. In the case of Patan and Jetpur, the income from capital grants contributed the highest to their total income from grants. Even in the case of capital grants, urban development and miscellaneous grants are major contributory factors for Jetpur municipality. In total capital grants for Patan municipality, the share of infrastructure development is a major one. The grants to the own income ratio indicates the dependency ratio of urban local government, which is highest for Patan.

The grant helps to reduce horizontal equity, as each municipality has diverse abilities, as well as a tax base to augment income. In the case of developed municipalities such as Patan and Jetpur, their income constitutes the major source of revenue, indicating that local government bodies have strengthened their revenue base. In contrast, grants are the major source of revenue for developing municipalities. The source of revenue is presented in Table 4. The detailed distribution of revenue income by own income and others is depicted in Table A2 of the Appendix.

The total deficit depicts the gap between income and expenditure of municipalities. Here is an attempt to analyze revenue and capital deficit. The budget of an urban local body is a financial statement of the

urban local government that indicates the planning and priorities of an urban local government.

Table 5 provides detailed information on various deficit parameters. The municipality-wise analysis is presented below.

The Patan municipality indicates an overall deficit for the first year (2005–2006) of the study, followed by a surplus in the next year (2006–2007). The deficit is due to higher capital expenditure on public amenities. The revenue account indicates a surplus for the first year followed by a deficit for the next two years, i.e. 2006–2007 and 2007–2008. This indicates overall higher administrative and socio-economic expenditure. The capital account indicates a deficit for the year 2005–2006, followed by a surplus for the next four years of the study. The deficit budget in the Patan municipality is only for the financial year 2005–2006. The capital account faced a deficit due to larger spending by municipalities for the construction of infrastructure such as a public hall.

The overall budget of the Jetpur municipality indicates a surplus except for the last year of the study, i.e. 2009–2010. The revenue account indicates a surplus for the first year of the study. The surplus indicates a higher contribution from non-tax income. Moreover, sanitation tax and streetlight fee contributions lead to a sur-

plus in the revenue account. In the case of the capital account, there is a deficit for all the five years of the study except 2008–2009. The capital (grant) expenditure is found to be increasing. In the case of developed municipalities, the adequate revenue in the budget provides better services, hence, it has a comparatively stronger fiscal position. This helps to create basic infrastructure and public places in the city. Big cities (Class A type city) provide employment opportunities and, therefore, attract the population from nearby rural and semi-rural regions. It thus reduces the financial pressure of the municipal corporation of the district, i.e. Rajkot. The detail of total income, expenditure, as well as revenue and capital income, expenditure is indicated in the Appendix (Tables A1 and A2).

The first year indicates a deficit budget for Chanasma, followed by a surplus for the next two years of the study. However, 2009–2010 indicates a deficit in the overall budget of the municipality. The first year of the study indicates a deficit in the revenue account, followed by a surplus. Again, the years 2007–2008 and 2008–2009 indicate a deficit followed by a surplus in the account. The capital account of the municipality has a deficit for the first year of the study, followed by a surplus in the account for the next two years. The year 2008–2009 indicates deficit, but once again the year 2009–2010 indicates surplus in the capital account. Chanasma municipality indicates a deficit for the years 2005–

2006 and 2008–2009 due to a deficit in both revenue and capital account. In 2009 – 2010, there is a reduction in capital grants (income), while spending remains unchanged leading to a deficit in the capital account. However, its 'own funds' are utilized to continue constructional activities that lead to a deficit in the revenue account. The Vanthali municipality indicates an overall surplus for the first two years of the study, followed by a deficit in the year 2007–2008 and then a surplus again in 2008–2009. The capital account indicates a surplus in the budget, except the year 2009–2010, due to the reduction of grants received from a higher layer of government. The revenue account indicates a deficit in the year 2007–2008 due to high administrative costs. A quantitative analysis is attempted to understand the nature and degree of dependency of municipalities on various sources of revenues.

A multivariate analysis (MANOVA) is carried out to understand the dynamics of revenue and expenditure of the two zones such as Saurashtra and North Gujarat. An attempt is made to understand whether or not the different components of the municipal budget, such as expenditure, income, and deficit, component of income and component of expenditure, etc., differ significantly between the regions and types of municipalities. The models for testing have an equation for each model. The postulation is that there is no significant difference between mu-

Table 6. Revenue and capital expenditure of developed and developing municipalities

Revenue expenditure	Mean	Sample size (N)	F-ratio
Developed Municipalities	8.66	10	104.29*
Developing Municipalities	1.378	10	
Total	5.019	20	
Intercept		198.17*	
Capital expenditure	Mean	Sample size (N)	F-ratio
Developed Municipalities	7.241	10	7.50**
Developing Municipalities	0.825	10	
Total	4.033	20	
Intercept		11.86*	
R Squared		.853 (Adjusted R Squared = .845)	

Note: * represents the 1% level of significance, and ** represent the 5% level of significance.

Table 7. Revenue and capital income of developed and developing municipalities

Revenue income	Mean	Sample size (N)	F-ratio
Developed municipalities	8.93	10	93.01*
Developing municipalities	1.32	10	
Total	5.13	20	
Intercept		168.8*	
Capital income	Mean	Sample size (N)	F-ratio
Developed municipalities	5.76	10	11.08**
Developing municipalities	0.82	20	
Total	3.29	10	
Intercept		19.67*	
R Squared		.838 (Adjusted R Squared = .829)	

Note: * represents the 1% level of significance, and ** represent the 5% level of significance.

Table 8. Municipalities of North Gujarat and Saurashtra

Revenue expenditure	Mean	Sample size (N)	F-ratio
North Gujarat	10.0060	5	6.21*
Saurashtra	7.3140	5	
Total	8.6600	10	
Intercept		257.01*	
Capital expenditure	Mean	Sample size (N)	F-ratio
North Gujarat	2.9760	5	4.71**
Saurashtra	11.5060	5	
Total	7.2410	10	
Intercept		13.56*	
R Squared		.437 (Adjusted R Squared = .367)	

Note: * represents the 1% level of significance, and ** represent the 5% level of significance.

municipalities of these two regions, and also across developed and developing municipalities. The result and analysis of MANOVA Equation 1 indicate expenditure (revenue and capital) of developed and developing municipalities (Table 6). Table 7 highlights the result for MANOVA. Equation 2 indicates the revenue and capital income of developed and developing municipalities. The MANOVA results of inter-zonal comparison of municipalities of north Gujarat and municipalities of Saurashtra as indicated in Equation 3 are provided in Table 8.

Table 6 shows that the average revenue expenditure and the average capital expenditure of developed municipalities are much higher than the developing municipalities. All four tests significant and display F-values. There is a significant difference between the average revenue expenditure and the average capital expenditure between developed and

developing municipalities. Higher administrative and socio-economic costs lead to higher revenue expenditure of developed municipalities. Overall, development, especially infrastructure, indicates higher capital spending for developed municipalities. Almost 85 percent of the variation in revenue and capital expenditure of developing and developed municipalities is explained by the model. It indicates that the growth of a region is backed by higher expenses.

Table 7 shows that the average revenue income and the average capital income of developed municipalities are much higher than the developing municipalities. This is due to a higher share of their own income in their budget when an average remain high. All four tests are significant and display F-values. There is a significant difference between the average revenue income and the average capital income between developed and developing municipalities.

Almost 83.8 percent of the variation in revenue and capital income of developing and developed municipalities is explained by the model.

Tables 6 and 7 indicate that the growth of an urban region is backed by higher expenses both on revenue and capital budget. However, it is supported by higher income, especially partially the own funds. This is noteworthy that developed municipalities in both the regions attempt to augment the financial resources for continuous development. However, the regional variation must be taken into consideration. The purpose of the 74th CAA is to serve as overall dependency has reduced. Though the scenario is different for developed and developing municipalities.

Table 8 shows that the average capital expenditure of municipalities in Saurashtra is high-

er than the municipalities in North Gujarat. However, in the case of revenue expenditure, the average of North Gujarat is higher than Saurashtra. The investment in infrastructure further enhances the overall development. The capital expenditure indicates investment in various long-term projects that are expected to provide higher returns in the future. However, greater revenue expenditure indicates a higher 'exhaustive spending' that does not lead to any return in the future. All four tests of significance display 'F-value' results in rejection of the null hypothesis and establish that there is a significant difference between the average of revenue expenditure and mean of capital expenditure between North Gujarat and Saurashtra. Almost 44 percent of the variation in revenue and capital expenditure of North Gujarat and Saurashtra is explained by the model.

CONCLUSION

Urbanization is an essential criterion to scrutinize the growth of society. Many urban problems that cannot be handled at the center or state level could be best handled at the local level. The 74th Constitutional Amendment Act (CAA) in 1992 was promulgated to promote decentralization and strengthen the grass-root level governance. As per the 12th schedule of Article 243W of 74th CAA, ULB should provide basic urban amenities. This calls for fiscal autonomy along with functional responsibilities. Overall dependency has reduced. Although, the municipality with better financial resources and economic opportunity stands to gain more compared to the smaller one. The scenario has not changed even today in 2020. The higher layer of the government must guide these local units in developing economically viable projects.

However, the higher capital deficit of Jetpur indicates that infrastructure expenditure is increasing tremendously, indeed thanks to rising employment opportunities in the region. Hence, the concentrations of municipal corporations in the Saurashtra zone indicate higher investment in infrastructure and capital-related activities. However, both zones must invest heavily in e-government, environmental issues such as solid-waste, and focus on the reduction of the deficit. This also highlights the fact that municipalities in peripheral regions of major urban centers tend to get benefits.

Increases in revenue expenditure need to be controlled for the efficient usages of available resources, in particular administrative costs, by adopting the technology. Efficient and technical staff is required. Municipalities are required to generate new and innovative sources of income to cover the increasing expenditure; however, for this, the understanding of the region is important. The staff, including the chief officer, must be appointed from the local area for a better understanding of the economic and social aspects of the region. Thus, municipalities can generate funds from the public for various social purposes. A local-level economic model will help. It has been observed that most local institutions follow the national model, changes are needed to reduce the dependency and explore the regionally available talent and resources.

AUTHOR CONTRIBUTIONS

Conceptualization: Forum Dave.
 Data curation: Forum Dave.
 Formal analysis: Forum Dave.
 Investigation: Forum Dave.
 Methodology: Forum Dave.
 Project administration: Forum Dave.
 Writing – original draft: Forum Dave.
 Writing – review & editing: Forum Dave.

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APPENDIX A

Table A1. Total expenditure (Rs in Lakhs)

Patan	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010
Administrative	130.89	144.38	143.21	142.93	189.47
as % of total expenditure	7.24	11.93	9.97	10.86	10.26
Economical	30.81	26.09	27.59	31.47	28.82
as % of total expenditure	1.7	2.15	1.92	2.39	1.56
Others	5.37	4.32	3.93	5.58	6.33
as % of total expenditure	0.3	0.36	0.27	0.42	0.34
Social	93.95	74.86	93.18	70.15	88.44
as % of total expenditure	5.19	6.18	6.48	5.33	4.79
Socio-economical	548.51	579.92	705.32	785.07	960.61
as % of total expenditure	30.33	47.9	49.08	59.63	52.04
Revenue grants	1.97	1.17	1.64	3.96	7.21
as % of total expenditure	0.11	0.1	0.11	0.3	0.39
Capital grants	610.24	146.46	243.52	134.74	353.08
as % of total expenditure	33.74	12.1	16.95	10.23	19.13
Total grants	612.2	147.63	245.16	138.7	360.29
as % of total expenditure	33.85	12.19	17.06	10.54	19.52
Total capital expenditure	610.24	146.46	243.52	134.74	353.08
Loans	3.95	20.45	17.71	4.56	18.98
as % of total expenditure	0.22	1.69	1.23	0.35	1.03
Extra	0	0	0	0	0
as % of total expenditure	0	0	0	0	0
Deposits	193.52	181.89	175.75	94.67	138.07
as % of total expenditure	10.7	15.02	12.23	7.19	7.48
Advance	189.53	31.08	25.22	43.41	54.88
as % of total expenditure	10.48	2.57	1.75	3.3	2.97
Total expenditure	1808.74	1210.62	1437.07	1316.54	1845.89
Vanthali	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010
Administrative	20.41	18.56	45.19	29.78	32.36
as % of total expenditure	11.95	13.94	32.4	17.4	14.75
Economical	0	0	0	0	0
as % of total expenditure	0	0	0	0	0
Others	0	0	0	0	0
as % of total expenditure	0	0	0	0	0
Social	3.5	2.41	1.6	3.56	7.25
as % of total expenditure	2.05	1.81	1.15	2.08	3.31
Socio-economical	33.9	38.1	18.2	59.07	58.37
as % of total expenditure	19.86	28.61	13.05	34.52	26.61
Revenue grant	1.24	6.87	4.16	4.55	3.6
as % of total expenditure	0.73	5.16	2.98	2.66	1.64
Capital Grants	108.75	64.11	64.4	53.77	88.62
as % of total expenditure	63.71	48.13	46.18	31.42	40.39
Total grants	109.99	70.98	68.56	58.31	92.22
as % of total expenditure	64.43	53.29	49.16	34.08	42.03
Total Capital Expenditure	108.75	64.11	64.4	53.77	88.62
Loan	0	0	20	0	0
as % of total expenditure	0	0	1.43	0	0
Extra	0	1.67	1.61	2.03	0
as % of total expenditure	0	1.20	0.89	0.92	0
Deposits	1.71	0.59	1.56	5.2	21.98
as % of total expenditure	1	0.44	1.11	9.35	10.02
Advance	1	2.42	0	2.31	0.51
as % of total expenditure	0.59	1.82	0	1.35	0.23
Total expenditure	170.71	134.73	156.72	160.27	212.69

Table A1 (cont.). Total expenditure (Rs in Lakhs)

Jetpur	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010
Administrative	99.04	85.18	106.7	102.66	101.67
as % of total expenditure	9.78	9.07	6.95	7.97	2.64
Economical	0	0	0	0	0
as % of total expenditure	0	0	0	0	0
Others	0	0	0	0	0
as % of total expenditure	0	0	0	0	0
Social	101.87	76.47	84.12	82.2	97.56
as % of total expenditure	10.06	8.14	5.48	6.38	2.53
Socio-economical	382.23	369.93	534.7	567.59	670.75
as % of total expenditure	37.76	39.4	34.82	44.06	17.4
Revenue grant	1.83	4.23	10.77	8.24	25.43
as % of total expenditure	0.18	0.45	0.7	0.64	0.66
Capital grants	216.59	220.34	451.55	326.65	2566.31
as % of total expenditure	21.4	23.47	29.41	25.36	66.56
Total grants	218.43	224.57	462.32	334.89	2591.74
as % of total expenditure	21.58	23.92	30.11	26	67.22
Total capital expenditure	216.59	220.34	451.55	326.65	2566.31
as % of total expenditure	0.04	0.53	0.01	0.12	0.01
Loan	15.69	23.08	69.68	12.1	16.4
as % of total expenditure	1.55	2.46	4.54	0.94	0.43
Extra	116.71	70.01	120.98	38.4	66.92
as % of total expenditure	11.53	7.46	7.88	2.98	1.74
Deposits	48.02	45.17	37.52	13.18	173.12
as % of total expenditure	4.74	4.81	2.44	1.02	4.49
Advance	29.99	39.48	119.33	135.6	137.23
as % of total expenditure	2.96	4.21	7.77	10.53	3.56
Total expenditure	1011.97	933.89	1535.35	1286.62	3855.39
Chanasama	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010
Administrative	21.04	14.42	15.57	25.52	14.06
as % of total expenditure	14.57	9.73	6.49	11.35	6.41
Economical	62.64	56.28	101.08	100.32	110.33
as % of total expenditure	17.49	27.65	34.33	26.77	44.14
Others	0	0	0	0	0
as % of total expenditure	0	0	0	0	0
Social	18.64	16.79	25.72	30.56	21.5
as % of total expenditure	5.32	8.45	8.98	8.24	8.92
Socio-economical	15.55	20.61	19.96	26.29	24.71
as % of total expenditure	4.44	10.36	6.97	7.08	10.25
Revenue Grant	1.02	2.87	8.67	0.07	0.51
as % of total expenditure	0.29	1.44	3.03	0.02	0.21
Capital Grants	200.3	44	39.46	142	19.87
as % of total expenditure	57.13	22.12	13.78	38.27	8.24
Total Grants	201.32	46.86	48.13	142.07	20.38
as % of total expenditure	57.42	23.57	16.8	38.29	8.46
Total capital expenditure	201.32	46.86	48.13	142.07	20.38
Loan	1.47	2.48	19.82	0	9.64
as % of total expenditure	0.42	1.25	6.92	0	4
Extra	5.23	5.06	3.81	4.3	1.33
as % of total expenditure	1.49	2.54	1.33	1.16	0.55
Deposits	0.23	1.15	0.87	0	0.39
as % of total expenditure	0.07	0.58	0.3	0	0.16
Advance	0.39	0.49	2.2	0	0
as % of total expenditure	0.11	0.25	0.77	0	0
Total expenditure	326.51	164.15	221.59	329.06	202.34

Table A2. Total income (Rs. In lakhs)

Patan	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010
Own income	992.49	746.32	888.81	948.90	1,249.98
As % to total income	59.40	58.64	54.21	68.80	66.85
Grants	326.94	350.58	595.01	244.20	491.36
As % to total income	19.57	27.54	36.29	17.71	26.28
Loan	0.00	0.00	0.00	40.00	0.00
As % to total income	0.00	0.00	0.00	2.95	0.00
Advance	173.77	32.03	42.28	56.76	60.81
As % to total income	10.40	2.52	2.58	4.12	3.25
Deposits	177.67	143.82	113.59	89.38	67.64
As % to total income	10.63	11.30	6.93	6.48	3.62
Extra	0.00	0.00	0.00	0.00	0.00
As % to total income	–	–	–	–	–
Total income	1670.9	1272.8	1639.7	1379.2	1869.8
Chanasama	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010
Own income	98.90	105.79	148.65	146.07	175.44
As % to total income	44.16	49.34	48.38	42.77	67.20
Grants	113.74	98.86	150.94	194.95	76.93
As % to total income	50.79	46.10	49.13	57.08	29.47
loan	5.71	3.01	1.77	1.50	9.03
As % to total income	2.55	1.41	0.58	0.44	3.43
Advance	0.39	0.49	0.70	0.00	0.00
As % to total income	0.17	0.23	0.23	0.00	0.00
Deposit	0.26	1.16	0.86	0.01	0.40
As % to total income	2.55	1.41	0.58	0.44	3.43
Extra	4.94	5.11	4.31	0.00	1.27
As % to total income	2.20	2.38	1.40	0.00	0.48
Total income	223.9	214.4	307.2	342.5	263.1
Jetpur	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010
Own income	182.08	220.65	265.11	411.59	455.95
As % to total income	17.29	17.61	14.13	24.78	13.76
Grants	636.91	862.53	1329.22	960.18	2366.17
As % to total income	60.50	68.85	70.85	57.80	71.39
loan	11.11	12.47	12.29	70.15	21.47
As % to total income	1.06	1.00	0.66	4.22	0.65
Advance	20.68	15.36	116.22	117.67	124.80
As % to total income	1.96	1.23	6.19	7.08	3.77
Deposit	80.93	56.64	31.21	31.02	256.98
As % to total income	7.69	4.52	1.66	1.87	7.75
Extra	121.10	85.11	122.12	70.56	89.18
As % to total income	11.50	6.79	6.51	4.25	2.69
Total income	1052.8	1252.8	1876.2	1661.2	3314.5
Vanthali	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010
Own income	23.45	54.22	53.98	92.39	116.60
As % to total income	13.50	39.52	35.65	36.78	71.20
Grants	145.13	76.30	92.98	139.25	31.88
As % to total income	83.60	55.61	61.41	55.43	19.47
loan	0.10	0.00	0.60	3.29	5.38
As % to total income	0.06	0.00	0.40	1.31	3.28
Advance	1.00	2.37	0.00	2.42	0.73
As % to total income	0.58	1.73	0.00	0.96	0.45
Deposit	0.83	1.77	1.20	11.46	4.63
As % to total income	0.48	1.29	0.79	4.56	2.83
Extra	3.10	2.54	2.65	2.40	4.55
As % to total income	1.79	1.85	1.75	0.96	2.78
Total income	173.6	137.2	151.4	251.2	163.8